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VOLUME XXIV JANUARY, 1926 No. 1

NERVE MECHANISMS IN THE PRODUCTION AND TREATMENT OF CERTAIN EDEMAS, AND THE ROLE OF THE ADRENALS IN THE PREVENTIVE EFFECTS OF CERTAIN DRUGS

By P. J. HANZLIK, M. D.
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INTRODUCTORY NOTE

Of the many sectors along the battle line between health and ignorance, none is more difficult nor the rewards for intelligent effort more promising than that of pharmacology and biochemistry. We feel that every physician will enjoy and appreciate the advances on that front here chronicled.

In transmitting this fascinatingly interesting essay, Doctor Hanzlik says: "I discuss the bases and practical phases of preventive drugs (many of which have been exaggerated therapeutically) in edema processes, and give an experimental basis for the use of strychnine in treating gross edema without, of course, giving results on patients. The latter I must leave to others for obvious reasons."

Surely the suggestion contained in this last sentence will fall on fertile soil, and in the meantime what an enticing panorama is spread before us from the new vantage point to which Professor Hanzlik leads us.—Editor.

THE importance of a sensory mechanism in the development of chemosis, as indicated by the irregular and contradictory results in the literature, has not been clearly demonstrated. Under controlled conditions, completely negative results have been obtained with mustard oil and dionine. There is no reason to believe that an axone reflex, or a reflex arc (with peripheral synapse) exists and is indispensable to chemosis.

Local anesthetics, and nicotine locally, do not prevent or inhibit chemosis from mustard oil and dionine, but circulatory depression from any cause whatsoever is known to prevent or reduce chemosis and edemas.

On the other hand, favorable though unconfirmed results on human subjects are reported, indicating that the sensory mechanism is essential in the development of mustard dermatitis of the legs, and local anesthesia by infiltration with procaine inhibits the process independently of local vascular changes.

The gross edema in the head and neck regions of rabbits and cats, produced by the administration of paraphenylenediamine, is due to increased vascular (capillary) permeability independently of the sensory and motor nerve mechanisms, axone reflexes, etc., and of a number of other factors.

This gross edema can be prevented by continuous injections of low concentrations of epinephrine and by drugs (strychnine, santonin, picrotoxin, and nicotine) which increase the output of epinephrine from the adrenals.

The possibilities of using strychnine in the prevention and treatment of certain clinical edemas, and other features, are discussed.

HHW

CLINICALLY, the beneficial effects of certain drugs in inflammations have long been recognized and thought to depend on their actions on sensory nerves, though really on pain or irritability. It is claimed that not only the pain and irritation are ameliorated, but also the hyperemia and edema are diminished, so that the pathological process may be terminated more quickly, as, for instance, after the application of local anesthetics in pharyngitis, rhinitis, etc. With cocaine the vasoconstrictor action must be kept in mind, but vasoconstriction would not explain the beneficial effects of procaine and some other local anesthetics and analgesics. The older clinicians regarded opium, bromides, and chloral as important remedies in the treatment of certain systemic inflammations, including pneumonia, in which opium and morphine were especially advocated (Rosenbach: Deutsch. Klinik, 1902, 1:213; Münch. med. Wochnschr., 1906, No. 18,857). Vasoconstrictor action could not be invoked with opium, bromide and the antipyretics, the effect of these drugs on the circulation and vessels being depression, if anything. The view that narcotics and anesthetics possess beneficial effects in various inflammations, through their actions on nerves, was championed especially by Spiess (Münch. med. Wochnschr., 1902, p. 1611; 1906, pp. 365 and 1948; Arch. f. Laryngol., 1919, p. 120). However, Spiess' claims were not supported by controlled clinical or experimental evidence.

Experimental evidence of the beneficial effects of morphine, quinine, cinchophen, salicylate, antipyrine, etc., in chemosis has been reported (discussion in Meyer and Gottlieb; Experimentelle Pharmakologie, 4th ed., 1920), and the benefits attributed to central analgesia from these drugs. It is supposed that this basis accounts for the therapeutic results from these agents in laryngitis, bronchitis, rheumatism, pleurisy, and not only as to

relief of pain, but also as to actual abbreviation and inhibition of the pathological processes. A study of the literature of the subject indicates that both the clinical and experimental reports are seriously defective in critical evidence, and that such results as have been obtained may be explained by quite obvious factors, without invoking more complex and less probable mechanisms. My object in this paper is to discuss the basis of the claims made for the importance of nerve mechanisms in edema and inflammatory processes, and the probable explanation of the inhibition of these changes by certain drugs, including a brief summary of some drugs that can inhibit edema by increasing the output of epinephrine from the adrenals.

INFLAMMATION AND SENSORY NERVE IRRITATION

Twenty-five years ago Head and Campbell (Brain, 1900, 23:353) showed that the inflammatory changes in the skin of herpes zoster are caused by irritative changes in the dorsal root ganglia. Owing to these changes, abnormal impulses are sent in an efferent direction along the sensory fibers to the skin in areas of distribution of the particular nerves. The actual formation of blisters has never been explained, but the vasodilatation resulting in the hyperemia, or rubefaction, was studied later by Bayliss (J. Physiol., 1900-01, 26:173). Bayliss showed that dilatation of skin vessels occurred during electrical, mechanical, chemical, and thermal stimulation of the cut dorsal nerve roots, with the spinal ganglia intact. The dilatation was unobtainable on direct stimulation of the nerve fibers some time after removal of the ganglia, which resulted in complete degeneration of the peripheral fibers. The vasodilatation still occurred after paralysis of the spinal ganglia by nicotine, and, therefore, independently of these structures. This result indicated that the mechanism of the vascular relaxation was due to passage of impulses along the course of the nerve fibers toward the periphery. The mechanism was not concerned with the sympathetic nerves because the dilator fibers did not pass into the sympathetics, and stimulation of these nerves gave the opposite result, namely, vasoconstriction, resulting in ischemia or anemia. Therefore, it appeared that vascular relaxation, resulting in hyperemia, could be elicited by direct peripheral sensory nerve stimulation. It is conceivable that if the vascular relaxation is maintained long enough, extravasation of fluid would occur, resulting in edema and vesication. However, under conditions of direct nerve stimulation by electrodes, and mechanically, edema and vesication are not obtained, even though the stimulation is kept up. On the other hand, pharmacologically, certain irritants produce edema and blistering readily.

CHEMOSIS

This brings us to chemosis, which can be produced readily and conveniently in animals, so that one eye is used for the experiment, and the other one serves as the control. This method has been employed by a number of investigators who have put to test the claims of Spiess and others, with respect to narcotics and anesthetics, the rôle of sensory nerves, etc. The results of Ninian Bruce (Arch. exp. Path. Pharm., 1910, 63:424), have been extensively quoted. Bruce found that local applications of 10 per cent cocaine and alypin to the conjunctiva prevented the chemosis of mustard oil. Section of the cord, posterior roots and sensory nerves alone did not prevent the chemosis, but complete degeneration, inclusive of the endings, did. The results of Bruce seemed to indicate that sensory nerves were essential to the chemosis, and their paralysis by cocaine and alypin explained the inhibitory action of these local anesthetics. Bruce explained the mechanism of edema formation on the basis of a neurone reflex, the irritation of sensory nerves being caused by the mustard oil. This seemed to bring it in line with Bayliss' mechanism of hyperemia and vasodilatation. Later, Bardy (Skand. Arch. f. Physiol., 1915, 32:198) confirmed the results of Bruce with cocaine, but not with alypin. He adduced evidence which seemed to indicate the presence of still another mechanism, namely, a reflex arc, so that now it seemed there was not only an axone involved, but also a synapse. This explanation was arrived at from the inhibitory action of nicotine, the classic ganglionic poison. Injection of nicotine systemically and locally, and also local application without systemic action, were found by Bardy to inhibit the chemosis. The results of further analysis, essentially along the same lines as, and confirmatory of, those of Bruce, indicated that the mechanism of the mustard chemosis, as also of the nicotine inhibition, was strictly peripheral. From his results, Bardy concluded that a reflex arc, situated peripherally and establishing connections between the sensory nerves and the blood-vessels, was necessary to the development of the chemosis, and that paralysis of the peripheral synapse by the nicotine broke the reflex arc, and this explained the inhibition. Histologically, the structures in the axone reflex of Bruce and in the peripheral reflex arc of Bardy have only a hypothetical existence, and their pharmacological basis, at least, has recently been jeopardized.

The alleged inhibition of the mustard chemosis by local anesthetics has been studied recently by Hirschfelder (Am. J. Physiol., 1924, 75:507), who found that cocaine in 2 to 5 per cent concentrations, and 2 per cent butyn, 4 per cent saligenin and 4 per cent procaine, which do not cause vasoconstriction, did not inhibit the process. All of these agents caused definite local anesthesia, and the local vascular changes by the anesthetics, i. e., some constriction by the cocaine, and relaxation or no change by the saligenin and procaine, were unimportant to the result. However, the marked vasoconstriction of epinephrine inhibited the edema. Hirschfelder emphasized the need of adequate blood pressure in such experiments to obtain the edema. Low blood pressure, or circulatory depression, which may be produced by nicotine and by local anesthetics, may explain the inhibition reported by previous observers. It has been found by Dr. Tainter of our laboratory that the maintenance of adequate blood pressure is very essential to the development of edema systemically. This edema will be discussed later on.

In view of the contradictory reports on mustard chemosis, Dr. Tainter has made observations on the

effects of local anesthetics and of nicotine in rabbits and cats. He found, in agreement with Hirschfelder, that cocaine in 5 per cent concentration, which resulted in local anesthesia, did not prevent mustard chemosis. Cocaine also did not prevent dionine chemosis in animals that responded to the irritant. Nicotine injected locally did not prevent mustard and dionine chemosis. On the contrary, both the cocainized and nicotinized conjunctivas responded with earlier and more marked chemosis than the control conjunctivas of the opposite eyes receiving the irritants alone. Hence, we were forced to conclude that chemosis in rabbits and cats, produced by the local application of mustard oil and dionine, is not inhibited by local anesthetics and nicotine, and, therefore, the importance of sensory nerve endings and peripheral axone and arc reflexes (and the existence of peripheral synapses) for the development of chemosis is doubted.

MUSTARD DERMATITIS

On the other hand, local anesthesia has been reported by Breslauer (Deut. Zeit. f. Chir., 1919, 150:50) to prevent mustard dermatitis of human subjects suggesting that the functional integrity of the sensory nerves may be essential to the development of this inflammation. Breslauer's work was done on soldiers who sustained nerve and cord injuries during the World War. Mustard oil was applied to the skin of the lower extremities, using the skin of upper extremities or other portions of the body as controls in cases in which there was complete section of the cord with abolition of sensation in the legs, owing to degeneration and paralysis. In cases in which there was section of the sciatic nerve or plexus on one side that extremity was paralyzed with complete abolition of sensation, and the skin of the other leg with sensation and motor activity intact was used as control. Mustard oil did not cause redness and blistering in legs, with sensation abolished. Infiltration of the skin of healthy legs (sensory nerves intact) with 1 per cent procaine prevented the effects. Curiously, epinephrine caused vasoconstriction in both paralyzed and healthy legs, indicating that the blood-vessels were responsive and that perhaps the sympathetic motor endings derived from fibers which travel with the sensory in the sciatic nerve were not paralyzed. It is possible that the epinephrine acted by constricting smooth muscle of the vessels directly. The interesting differences in vascular response observed by Breslauer were that mustard as an irritant caused vascular relaxation, this being prevented by cocaine and procaine in healthy legs, and absent in legs with nerve degeneration and paralysis, while epinephrine caused vasoconstriction under the same conditions. Moreover, irritation from cold, i. e., freezing with ethyl chloride, caused vasoconstriction followed by vasodilation, but not so the irritation of mustard, which caused vasodilation only. Breslauer concluded in favor of the inhibitory action of local anesthetics in, and of the importance of sensory nerves to, the inflammatory effects of mustard in man. However, the results with infiltration anesthesia of the skin of the legs are not comparable with those of surface anesthesia of the conjunctiva, and confirmation of Breslauer's results is desirable.

SYSTEMIC EDEMA FROM PARAPHENYLENEDIAMINE

I now wish to indicate briefly some results with a striking edema of the head and neck (tongue, facial and cervical skin, conjunctiva and vocal cords), produced by the hypodermic or oral administration of paraphenylenediamine in rabbits and cats. Development of changes in this way brings the experimental results in closer relation to certain clinical edemas (herpetic, urticarial, angioneurotic, etc.). The analysis of such an edema might ultimately throw light, not only on certain clinical edemas, but also on the side actions of certain drugs, such as the facial and eyelid swellings and similar idiosyncrasies encountered in certain individuals. The time at my disposal will permit of only a brief summary of two phases of the edema, namely, (1) the mechanism of its formation, and (2) prevention by certain drugs and the adrenals. The conclusions reached are based on results obtained from over four hundred animals employed in a study made by Dr. Tainter during the past three years.

Mechanism of the Edema — The location of the edema appears to be nearly specific, for it appears exclusively in the head and neck regions. Briefly, the mechanism was found to consist of a marked increase in vascular permeability (probably capillary) with escape of plasma in the head and neck regions, independently of ganglia and nerves of the autonomic system, the brain, the sensory nerve endings, colloidal inhibition, local acidosis, salivary excretion of the poison and kidney changes. There is an escape of whole plasma, including fibrinogen, into the tissues of the head and neck, and this explains the gelatinous nature of the edema. The circulation in the head and neck must be adequate, for a low blood pressure or circulatory collapse from any cause whatever prevents development of the edema. This explains the inhibition produced by narcotics. The application of, and infiltration with, local anesthetics did not prevent the edema; neither did injections of large doses of calcium. Colloidal dyes escaped readily into the edema areas, and injection of peptone favored the edema, these results being consistent with increased vascular permeability. It was prevented by the continuous injection of epinephrine and can also be stopped by continued electrical stimulation of the sympathetic nerves in the neck, because in these two ways inadequate blood flow to the head supervenes as a result of vasoconstriction. The details of the analysis have been published by Tainter and myself in the Journal of Pharmacology and Experimental Therapeutics, 1924, 24:179. The escape of plasma is facilitated by circulatory stimulation caused by the paraphylenediamine in small and in the beginning with large doses. Hence, this feature is favorable to the prompt production of the edema, which requires only an hour and a half for its development. The circulatory and other actions have been described previously in the Journal of Industrial Hygiene, 1923, 4:386:448. According to our analysis, therefore, the systemic edema of paraphenylenediamine is not concerned with nerve mechanisms. It can be prevented in both cats and rabbits by nicotine and some other drugs through a mechanism which, it

is believed, may be of significance for studies of edema in general.

Prevention by Drugs, and the Adrenals—Complete inhibition of the edema was first demonstrated by intravenous and subcutaneous injections of nicotine in doses that did not cause paralysis of ganglia. The prophylaxis was successful in about 80 per cent of animals tried, a number surviving permanently. (The lack of success in the remainder is explainable by our recent results.) Among other things, it was ascertained that the inhibition was not brought about through an action on nerves, since destruction and degeneration of all the sensory and motor nerves in the head and neck regions, including the Gasserian ganglion, did not interfere with the inhibitory action of nicotine. Local injections of nicotine aggravated the edema, if anything, and, hence, excluded any hypothetical local synapses as the seat of inhibition. Nicotine exerted no inhibitory influence on the edema of the perfused head and extremities. These and other results indicated that the seat of nicotine inhibition was not peripheral, and, therefore, it was concluded that it must be systemic. The other agent, which was found to inhibit the edema was epinephrine, which, in view of the fact that the dosage of nicotine used was not paralytic for ganglia, suggested that the nicotine inhibition was exerted through the adrenal glands. That is, the nicotine prevented the edema indirectly by increasing the output of epinephrine from the adrenals, an action of nicotine that is well known from the work of several investigators (Elliott, Cannon, Stewart and Rogoff, and others; lit., in Stewart and Rogoff: J. Pharm. Exp. Therap., 1919, 13:183), so that the inhibition was essentially the same as that from continuous injections of epinephrine. The adrenals were found to be indispensable to the nicotine inhibition, because the edema could not be prevented in adrenalectomized cats receiving nicotine. The output of epinephrine must be adequate. In some experiments the output of epinephrine was determined by the cava pocket method of Stewart and Rogoff, but in the majority by the denervated-sensitized pupil of Meltzer, as employed by Shimidzu (Arch. exp. Path. Pharm., 1924, 103:52). Equally interesting and confirmatory results were obtained with strychnine, picrotoxin, and santonin, since these drugs, which also increased the output of epinephrine, also prevented the edema. Thus, the gross edema of paraphenylenediamine was prevented by essentially the same mechanism, presumably by diminished blood flow through the head and neck, however this might be brought about, whether by ligation of vessels to the head, by continued stimulation of cervical sympathetic nerves, by hemorrhage, by fall of blood pressure, or by vasoconstriction from continuous injection of epinephrine, or from drugs which increased the epinephrine output of the adrenals.

The mediation of prevention through the adrenals suggests certain possibilities for studies of edema in general. The converse of the inhibitory mechanism is conceivable, namely, that certain edemas, or at least a predisposition to them, may be caused by impaired function of the adrenal, that is, through diminution of its epinephrine output. One may reasonably ask if a deficiency of epinephrine may not occur as the result of the injurious action of certain drugs and foods, which cause idiosyncratic responses (edemas, rashes, etc.) in certain individuals. Another possibility is the use of the inhibitory drugs mentioned in this paper in the prevention and treatment of idiosyncratic swellings, urticarias, rashes, etc. Assuming that the response of human is similar to that of animal adrenals, these drugs would offer certain advantages over epinephrine, which is used clinically with some success, namely, that their action would be continuous and prolonged, and they can be administered orally. On the other hand, the degree of action would probably be less than with injected epinephrine. Of the drugs tried, strychnine would be most suitable. The total effective dosage used in our animal experiments ranged from 0.24 to 0.74 mg. per kilo injected subcutaneously in five to eight divided doses. This would make a total dosage of from 14.4 to 44.4 mgms. for a 60 kilo man, hence a certainly toxic and probably convulsant dosage if the total quantity were injected at once. However, by dividing it into several divided doses so as to administer about 5 mgms. or somewhat less at a time over sufficiently long intervals, toxicity probably would not occur. Whether the ordinary therapeutic dose of from 1 to 2 mgms. could augment the epinephrine output in an adult man is not known, but the administration of small doses over long periods might do so and be useful as a prophylactic measure. Clinically, strychnine and caffeine have been used with alleged success in asthma, in which epinephrine is so successful. The beneficial effects of epinephrine in the edema of paraphenylenediamine may be taken as the experimental basis of the action of epinephrine in certain clinical edemas. The details of the study of preventive drugs will be published by Dr. Tainter in the Journal of Pharmacology and Experimental Therapeutics.

CONCLUSIONS

1. The importance of a sensory mechanism in the development of chemosis, as indicated by the irregular and contradictory results in the literature, has not been clearly demonstrated. Under controlled conditions, completely negative results have been obtained with mustard oil and dionine. There is no reason to believe that an axone reflex, or a reflex arc (with peripheral synapse), exists and is indispensable to chemosis.

2. Local anesthetics, and nicotine locally, do not prevent or inhibit chemosis from mustard oil and dionine, but circulatory depression from any cause whatsoever is known to prevent or reduce chemosis and edemas.

3. On the other hand, favorable though unconfirmed results on human subjects are reported, indicating that the sensory mechanism is essential in the development of mustard dermatitis of the legs, and local anesthesia by infiltration with procaine inhibits the process independently of local vascular changes.

4. The gross edema in the head and neck regions of rabbits and cats produced by the administration of paraphenylenediamine is due to increased vascular (capillary) permeability independently of the

sensory and motor nerve mechanisms, axone reflexes, etc., and of a number of other factors.

5. This gross edema can be prevented by continuous injections of low concentrations of epinephrine and by drugs (strychnine, santonin, picrotoxin, and nicotine) which increase the output of epinephrine from the adrenals.

6. The possibilities of using strychnine in the prevention and treatment of certain clinical edemas, and other features, are discussed.

REGIONAL ANESTHESIA

By C. E. PHILLIPS, M. D., AND ROY H. JOHNSON, M. D.,
Los Angeles

Regional anesthesia to be successful must be carefully studied and practiced.

The advantages of regional over general anesthesia are: Less shock; less systemic effects; reduction of respiratory complications; lower mortality rate.

Its advantages over local anesthesia are: More complete anesthesia with less anesthetic; greater ease and rapidity of anesthetizing large areas; in abdominal work, both parietal and visceral surfaces are rendered anesthetic; enlargement of the field for local anesthesia.

DISCUSSION *by Mary E. Botsford, San Francisco; Eugene H. Barbera, Oakland; W. A. Shaw, Elko, Nevada; William W. Hutchinson, Los Angeles.*

THE chief purposes of an anesthetic are to relieve physical and mental pain. Physical pain, arising from a local interference with a sensory nerve, such as is caused by a surgeon's knife, and mental pain, is the term we apply to the anguish experienced by people who anticipate pain, but who may not be actually in pain.

The ideal anesthetic should possess certain qualities, which are chiefly:

1. Relief of physical pain arising from certain area or areas.

2. Should allay mental pain as we have defined it.

3. Safety. The anesthetic should do no harm to the patient, and should be lasting enough to permit the accomplishment of the ends sought.

4. It should have no subsequent deleterious effects on the patient.

We have no such anesthetic.

Inhalation narcosis is the most common method of inducing anesthesia. It fulfills the first requirement perfectly. It fulfills the second only after the patient is asleep. It does not satisfy the other two requirements satisfactorily in all cases.

In every place where the seriously sick are treated there are a number to whom the administration of an inhalation narcosis jeopardizes their chance of recovery. In this class of persons the use of regional or local anesthesia is advisable where it can be used. Its safety should indicate its employment in a large number of surgical patients.

Regional anesthesia is produced by two different types of procedures—field block and nerve block.

Field block is accomplished by encircling the operative field with a wall of anesthetic solution injected into the tissues. *Nerve block* is accomplished by injecting the anesthetic solution into the nerve or in close proximity to a nerve coming from the area to be anesthetized. Regional differs from local anesthesia, in that the latter has the anesthetic solution injected into the field of operation.

In considering this problem, the first question that arises is: Who shall administer the anesthetic? It must be done by one thoroughly familiar with it. Inhalation narcosis may be administered by the unskilled. Regional anesthesia to be successful requires a thorough familiarity with the technique. Few surgeons have perfected themselves in the technique. Fewer anesthetists have even studied it. If the method is to come to the prominence it apparently deserves, it must be carefully studied and its principles thoroughly mastered by the one who uses it. It will probably be used by the operating surgeon, although there is no reason why the professional anesthetist should not master its principles and make its use extensively available. The regional anesthetist must know the effect and toxicity of the drugs employed; or as has been said, "He should have a thorough knowledge of anatomy, a good training in general surgery, and a complete command of the principles of the method of regional anesthesia."

I shall now consider the subject briefly, as applied to anesthesia of the neck, upper extremities, chest and abdomen, or para vertebral anesthesia. The essentials are:

1. Accurate knowledge of the anatomy of the part, especially of the bony prominences and their relation to nerve trunks and the distribution of the nerves.

2. *Armamentarium*—Instruments should consist of: (a) Dermographic pencil. (b) Syringes: One Luer 2 cc. hypo-syringe with two needles. These needles should be the 20 or 50 m. length and .6 or .7 mm. in diameter. They are used to infiltrate the skin so that the deep injections may be carried out painlessly. Two 12 cc. anesthetic syringes; six infiltrating nerve needles (three of a size and two sizes). Only one size needle is used in a given case, depending on the flesh of the patient. The sizes should be 80 and 100 m. in length and .8 to .9 mm. in diameter. The syringe should be of glass rather than all metal. The metal and glass syringe is preferable because it permits less leakage than the all-glass syringe.

3. The same asepsis is necessary that is required for the operation. *Solutions:* Novocaine in one-half of 1 per cent and 1 per cent solution is used. Adrenalin is added to accentuate and prolong its effect. With the solutions carefully sterilized by boiling, adrenalin is added just before the injection.

Amount of Anesthetic Solution—If the one-half of 1 per cent solution is selected, 250 to 300 cc. may be used with safety. If the 1 per cent solution is used, 125 to 150 cc. may be used, while not more than 30 cc. of the 2 per cent solution should be used. Ten drops of 1:1000 adrenalin is added to each 100 cc. of solution, just before injection. The usual maximum dose of 1:1000 adrenalin solution is thirty drops. This should be reduced in children, arteriosclerotic individuals, in hypertension cases, and others less commonly, when one-half dose or less should be given.

With the needles, syringes and solution prepared, the patient is placed on the operation table,

with the side to be anesthetized uppermost. The work may call for a para vertebral cervical block, a para vertebral dorsal block, a para vertebral lumbar block or a para vertebral sacral block or transacral block, as the last is called. Usually a combination of these is necessary to anesthetize the operative field.

The cervical para vertebral block offers the greatest difficulty. Two routes are offered—the dorsal and the lateral approach. Because of the lack of definite landmarks in the dorsal route, the lateral is usually selected. The dorsal route, passing by the transverse processes, does not incur the risk of injuring the vertebral vessels. On the other hand, there is less chance of finding the nerves and getting a satisfactory anesthesia. If the lateral block is selected, three wheals are raised—one a finger's breadth below the mastoid process, a second over the tubercle of Chassaignac, and a third opposite the superior cornu of the thyroid cartilage. The tips of the transverse processes are located by palpation with the forefinger of the left hand. The right hand passes the needle to the tip of the fourth cervical process, the syringe is connected, and about 5 cc. of a 1 per cent solution is injected; then an equal amount is injected as the needle is withdrawn. Another needle is introduced to the tip of the transverse process just above, and the injection is repeated for the third and second cervical. Care must be taken that the needle strikes the tip of the transverse process. If this is done there is no danger of injuring the vessels. Sub-fascial injections are then made along the posterior margin of the sterno mastoid muscle, 75 cc. of 1 per cent solution being used.

The brachial plexus is blocked in several ways. The para vertebral injection is here more difficult than the injection of the brachial plexus itself. The plexus may be reached through the axillary route. The infra-clavicular approach is probably preferable. In brief, the patient is placed on the table, with the arm of the side to be injected abducted to the extent of 45 degrees and allowed to hang over the edge of the table. The head is turned toward the opposite side. The tubercle of Chassaignac is palpated, and a mark made on the skin over it with the dermographic pencil. A point is selected one finger's breadth mesial to the tip of the coracoid process, and another mark made. These two marks indicate the location and direction of the brachial plexus. The infiltrating needle is inserted in the lower mark and made to advance closely under the clavicle toward the tubercle of the sixth cervical vertebra. When the nerve is struck it is usually felt as a pain in the hand, most frequently in the distribution of the ulnar. The injection of 15 cc. of 1 per cent solution is made. The needle is advanced 3 cm., and 15 cc. more of solution is injected.

The anesthesia of the dorsal and lumbar regions constitute the great majority of cases, and is at the same time the most easy to perform. To assist you in grasping the principles, I have made a sketch from Labat's work, showing the nerve course and distribution in the thoracic region. With the fixed bony landmarks present, the injection of nerve roots becomes an exact procedure. The landmarks are the spinous processes, the ribs and the transverse processes. With the patient lying on the side opposite that to be injected, the back is arched by a pillow under the waist-line. By drawing up the knees, the inter-vertebral spaces are opened to a maximum. The twelfth rib is traced to the vertebra, a perpendicular line is dropped 5 cm. down the midline of the back and finds the spinous process of the twelfth dorsal vertebra. The numbers of the vertebra are reckoned from this. The location of the spinous processes are touched with the dermographic pencil. The area to be anesthetized is mapped out and the nerves supplying this area are to be injected. A line is drawn parallel to the spinous processes and 4 cm. distant, covering the nerves supplying the field of operation. This serves to keep the subsequent injections in line. By keeping them in line, the angles and distances of the injections become uniform and exact. With the patient in the lateral position, the needle is introduced on the 4 cm. line and advanced downward, inward and forward toward the spine, making a 45 degree angle with the surface. The costo-vertebral angle is searched for and found. Remembering the nerve is nearly in the middle of this intercostal space, the needle clears the under edge of the rib at an angle of 45 degrees and passes beyond one-half of 1 cm. If no blood is flowing from the needle, indicating that it is not in a vein, the injection of 5 to 8 cc. of a 1 per cent solution of novocain and adrenalin is begun and distributed about by cautiously moving the point of the needle as the injection is made. The same process is repeated in the lumbar region, except that the transverse processes must be found with the needle and the injection made at an angle of 30 degrees over them instead of under them, as was done in the dorsal region. Instead of going one-half cm. beyond, as in the dorsal region, the needle is passed by the transverse process by 1 cm. The injection is carried out in a fan-shape area, as before mentioned.

For blocking the lumbar and sacral plexuses, the intradural method is much easier, and if carefully performed is probably safe.

In conclusion we may sum up: The advantages of regional over general anesthesia are: (1) Less shock; (2) less systemic effects; (3) reduction of respiratory complications; (4) lower mortality rate.

Its advantages over local anesthesia are: (1) More complete anesthesia with less anesthetic; (2) greater ease and rapidity of anesthetizing large areas; (3) in abdominal work, both parietal and visceral surfaces are rendered anesthetic; (4) enlargement of the field for local anesthesia.

Regional anesthesia, to be successful, must be carefully studied and practiced.

523 West Sixth Street.

DISCUSSION

MARY E. BOTSFORD, M. D. (807 Francisco Street, San Francisco)—The comparative merits of general and local anesthesia have been the subject of much discussion, but as there is no one perfect agent or method, safety—the final criterion—demands the adaptation of the anesthetic to the individual case.

Doctors Phillips and Johnson make a strong plea for the use of regional anesthesia rather than inhalation in showing that, while the latter may be administered by the unskilled, the former requires a thorough familiarity with the technic, thus insuring for the patient the safety to be derived from knowledge and experience.

It is to be regretted that specialists in anesthesiology

have not taken up this method. McMechan, the editor of the "Year Book of Anesthesia and Analgesia," has repeatedly advised professional anesthetists to study the administration of local and regional anesthesia, and no doubt the future will see this accomplished.

One advantage to the surgeon, in this combination, is the prevention of delay by the presence of the anesthetist, when it becomes necessary to augment the local anesthesia with general, as, for instance, in many intra-thoracic operations.

EUGENE HOWARD BARBERA, M. D. (Federal Realty Building, Oakland)—It is to be regretted that, generally speaking, we find the surgeons of France, Germany, Italy, and South America becoming more enthusiastic in the art of regional anesthesia than are we of America. This particular field of work calls for exact knowledge of anatomical relations and demands considerable skill. Daily one sees opportunities in the operating-room to apply this particular type of anesthesia, yet the patient is denied this degree of safety because of the operator's inexperience with the method. I most vividly recall the influenza epidemic, at which time a general anesthetic often invited disaster. A surgeon or physician anesthetist skilled in regional anesthesia would have approached these emergency cases with less fear in his heart than we did. One cannot accept this method for all cases, nor should we attempt to carry it out on the neurotic, hypersensitive individual, who most often is best handled under a carefully administered inhalation anesthetic.

Finally, the conclusions of Doctors Phillips and Johnson seem too logical to refute in this present era of surgical endeavor.

W. A. SHAW, M. D. (Pioneer Building, Elko, Nevada)—The paper of Doctors Phillips and Johnson sets forth the advantage of regional anesthesia, as well as very accurately describing the necessary technique.

Nerve block demands special skill, but most surgeons can quite satisfactorily do a field block if they so desire. I feel that the extra trouble involved in administrating field or nerve block is responsible for the fact that it is not used more frequently.

In the larger centers where much surgery is done, the specialist in anesthesia should do this sort of work, while in most hospitals where such specialists are not available, in my opinion the surgeon should familiarize himself with the technique and be able to do regional anesthesia.

In the rather large class of patients known as poor surgical risks, regional anesthesia undoubtedly has its field unopposed by any form of general anesthesia, the administration of which would surely increase the danger of any operative procedure.

WILLIAM W. HUTCHINSON, M. D. (Baker-Detwiler Building, Los Angeles)—No one who has the advancement of the science of anesthesiology at heart could help being intensely interested in this paper. The writers have gone into the technique of the procedure with unusual clearness, which makes the paper of exceptional value. That regional anesthesia has its place in surgery cannot be denied by the most enthusiastic proponents of inhalation anesthesia. This fact is proven by its extensive use, especially in Europe, where it has largely supplanted inhalation anesthesia in some of the clinics. It must be remembered, however, that in these clinics the patients are not given the opportunity of choice. The average American with his high-strung nervous system would prefer unconsciousness during a surgical procedure.

On one point I wish to take issue with the writers of the paper. They state, "Inhalation narcosis may be administered by the unskilled." To my mind this is a mistake often made by surgeons. To allow the administration of an inhalation anesthetic, especially nitrous oxide, by an inexperienced or unskilled person is jeopardizing the life of the patient and the surgeon's reputation.

In conclusion, I should urge the specialists in anesthesia to thoroughly familiarize themselves with the technique of regional anesthesia and be prepared to relieve the surgeon of the actual work in the selected cases where this method is indicatd. The surgeon is often too busy with his surgical problems to develop the technique and assume the responsibility of the anesthetic.

PHILLIPS AND JOHNSON (closing)—Further study will probably define the field of regional anesthesia. There are certain shortcomings of the method which we believe at present are as follows:

It does not fulfill our second requirement as we have defined it—i. e., it does not allay the mental shock. With the critically ill patients where this type of anesthesia seems to be particularly indicated, the mental element is active only to a minor degree. Within our prescribed limits this objection holds good only to a minor degree.

The second shortcoming of the method we would designate its "uncertainty." Even in the most skillful hands the percentage of failures will approximate 20 per cent. In most instances the lack of success is only partial and the administration of a small amount of inhalation anesthetic will permit a painless completion of the operation. There are still others in which the failure is complete, and these are due to a variety of causes.

In all surgical work the welfare of the patient is paramount, but with other things equal the operator working under a severe nervous tension may not exercise the refinement of judgment displayed under more favorable conditions. In other words, when the uncertainties of the anesthetic are added to the responsibilities of a difficult operation, in the presence of a conscious patient the operator's acumen may be affected. We believe the technical difficulties of the method are too great for it to supplant the general anesthetic, except along certain lines.

In conclusion, we desire to express our appreciation to the gentlemen who have discussed this paper, and to Labat, whose technique we have followed closely in our clinical work.

CAESAREAN SECTION FOR HEMORRHAGE

By REGINALD KNIGHT SMITH, M. D., *San Francisco*

The consensus of obstetric opinion has gradually focused to the point of agreement that in only a small percentage of cases of placenta previa is Caesarean section indicated.

Of 4002 obstetric cases that passed through my records prior to December 31, 1922, placenta previa—all forms—occurred twenty-eight times, with a maternal mortality of 0 per cent and a fetal mortality of 6 or 21 + per cent.

DISCUSSION *by K. L. Schaupp, San Francisco; Martha Welpton, San Diego; E. T. Rulison, Sacramento.*

HEMORRHAGE from the birth canal of the pregnant woman, especially during the latter half of pregnancy, is always the cause of alarm and apprehension to the patient and her family, and it is a danger, in varying degrees, to both mother and child.

To the obstetrician it means an added heavy responsibility and the urgent need for early and correct diagnoses of the causes of the hemorrhage, and the prompt institution of the treatment of the patient.

The first thought in the doctor's mind will be placenta previa with its varying types known as lateral, marginal, and central implantations and his mental picture of the unfavorable prognosis in each when the patient is not aided by obstetric art. The risk to the mother rises from a low percentage in the marginal to inevitable death in the complete form; it decreasing to from 3 to 10 per cent under intelligent obstetric procedures, such as Broxton Hick version and the use of bags, applied either with or without previous rupture of the membranes.

The physician's second thought will be of the so-called accidental hemorrhage, carrying as it does a maternal mortality as high as 95 per cent, and decreasing under competent obstetric care to about 60 per cent. And his third thought will be of the risks to the child in each of these conditions, with a pic-

ture of the chances for its survival under obstetric treatment.

With the advances made in abdominal surgery it was to be expected that the suggestion of Caesarean section for each of these pathological conditions, of which hemorrhage is the outstanding symptom, would be made. Since it was made there has accumulated an unusually large amount of literature in favor of and much against this mode of treatment. This I have no intention of reviewing.

The consensus of obstetric opinion has gradually focused to the point of agreement that in only a small percentage of cases of placenta previa is Caesarean section indicated. This, approximately 5 per cent, includes those with a long rigid os, viable child, pelvic distortion, cardiac disease, or who have other complications in addition to the placenta previa.

Caesarean section should be the method of choice in the treatment, and should be promptly done in almost all cases of accidental hemorrhage.

Facts compiled from published statistics do not show improvement in the mortality rate of mothers from operation for placenta previa; but do show a marked increase in the chances of survival of the child. For accidental hemorrhage there is a marked improvement in the chances for the mother, but no change in the risk to the child.

Of 4002 obstetric cases that passed through my records prior to December 31, 1922, placenta previa—all forms—occurred twenty-eight times, with a maternal mortality of 0 or 0 per cent; and a fetal mortality of 6 or 21 + per cent.

The method of delivery has been: (1) Rupture of membranes only with spontaneous delivery, 5; maternal deaths, 0; and fetal deaths, 1. (2) Bag introduction with or without version, 8; with maternal mortality, 0; fetal mortality, 4. (One child was viable, three non-viable in this group.) (3) Caesarean section, 15, with maternal mortality, 0; fetal mortality, 1. (Child was diagnosed as dead before operation, but mother and family insisted on giving the child the benefit of the doubt, in the hope that we were mistaken in our diagnosis of its death.)

Accidental hemorrhage occurred in twelve patients, with a maternal mortality of 1 or 8.33 per cent, and a fetal mortality of 8 or 66.33 per cent.

The method of treatment of these patients has been: (1) Dilation of cervix with rupture of membranes and spontaneous or instrumental delivery, 4; maternal mortality, 1 or 25 per cent; and fetal mortality, 2 or 50 per cent. (2) Bags introduced, with either spontaneous, version or instrumental delivery, 2, with maternal mortality, 0 or 0 per cent; and fetal mortality, 2 or 100 per cent. (Both of these cases were directly traumatic at fifth and sixth month of gestation, occurring as result of a jam on street-cars, and were, therefore, non-viable.) (3) Caesarean section, 6, with maternal mortality, 0; and fetal mortality, 4 or 66.66 per cent. The two infants surviving were one full-term child of a mother with a severe heart lesion and in hospital when the hemorrhage began. The other was premature, the hemorrhage developing after a severe muscular effort, the flow of blood slight, and the pain and other symptoms subsiding, the child being delivered a few days later and a small, old clot about two inches across and adhering to the placenta when it was delivered. In the other four cases there was total separation of the placenta and, therefore, no hope for the child. Hysterectomy was not considered necessary or advisable in any of these patients.

It is not to be forgotten that pregnancies subsequent to Caesarean section are permanently complicated by the presence of a scar in the line of the incision in the uterus, generally necessitating the termination of such pregnancy by another Caesarean section, or exposing the patient and child to the risk of uterine rupture, carrying with it a much larger risk than the spontaneous delivery of a normal labor.

2600 Jackson Street.

DISCUSSION

KARL L. SCHAUPP, M. D. (516 Sutter Street, San Francisco)—Doctor Smith has stated the case of Caesarean section for hemorrhage very concisely and clearly. His opinion is particularly valuable because each of this series of four thousand women was delivered by his own hand, and the report is not based upon the clinical work of assistants or students. It is a personal experience.

Smith's conclusions and experiences are in line with my own at the Stanford women's clinic and at the San Francisco Hospital. I agree with him that abdominal section as the means of delivery in placenta previa is rarely necessary, Voorhees' bags being perhaps a greater life-saving measure.

The status of accidental hemorrhage, however, is quite a different matter. As in placenta previa, there are varying degrees of placental separation in placenta ablatio. Very often during the course of the third stage of labor I find evidence of a small area of a separation where clotting has occurred and progress of the separation stopped. At other times during labor, or just before its onset, there is bright bleeding, which is not explained, by low implantation of the placenta. This may be present in such a severe degree that interference may be necessary, but more often the onset of labor or the rupture of the membrane may exert sufficient pressure to check the progress of the separation.

Where placental implantation is in the normal position and external bleeding occurs, we know that the accumulating blood has dissected its way to the external os. Here the child has a good prognosis, for there is usually sufficient placental attachment to insure the nutrition during the balance of the labor. It is not this type, however, where we turn to Caesarean section, unless there are complicating features.

The true, complete premature separation of the normally implanted placenta presents a striking picture, which is perhaps best described by the term "placenta abruptio or apoplexy of the placenta." This implies something sudden and severe, and this implication is well borne out by the symptomatology: Sudden and continuous abdominal pain, increasing in intensity; no relaxation or rhythmic contraction of the uterine muscle; the hard, board-like uterus, painfully tender to palpation; the sense of disaster experienced by the patient, and the sudden onset of shock present a never-to-be-forgotten picture. In such a situation the progress of the separation and bleeding is so sudden and shock so profound, that there is only one thought, namely, to stop the hemorrhage as quickly as possible. If this should occur during labor and the cervix is well dilated or dilatable, delivery by means of version and extraction or by means of forceps may be successful. I have seen only one such case, however, for by far the greater number occur before the onset of labor.

In complete separation, I feel the Caesarean section is always the operation of choice. It is the quickest and safest for the mother. The child here is not to be considered, for fetal life ceased with the separation. Bags are out of the question, because their efficiency depends upon the ability of the uterine muscle to contract, and this function has been lost. Again, the time necessary for dilation by this means would be far too long. Manual dilation, while faster, may likewise be too slow and too

uncertain. Version is dangerous because the infiltration of the uterine muscle with blood makes it so friable that there is danger of uterine rupture.

True complete placental separation is rare—so rare, in fact, that in four thousand patients Smith has had I dare say only six, the six upon whom Caesarean section was performed.

MARTHA WELPTON, M. D. (First National Bank Building, San Diego, Calif.)—As Dr. Schaupp has said, Dr. Smith's report is of great value because it is a record of his own personal work. Both Smith and Schaupp have been clear and concise in their presentation.

Three things I wish to emphasize. First, the mother's right to decide on the procedure to be followed. After the physician has discussed with her the probable results of each procedure—non-surgical and surgical—the decision should be left with her. The woman who is not young and who is ready to deliver her first living child will probably insist upon taking all the risk herself in order to insure the life of her child. Second, a woman who has had one Caesarean section and again becomes pregnant has at least six months in which to put herself under the care of a competent obstetrician. When labor begins she can go into the hospital, be under constant supervision, so the worst which can possibly happen will be a second Caesarean section. Third, in a hurried delivery with forceps we should never forget the possible trauma to the child's head.

E. T. RULISON, M. D. (California State Life Building, Sacramento, Calif.)—Doctor Smith's statement that "in only a small percentage of cases of placenta previa is Caesarean section indicated, approximately 5 per cent" is a challenge to the rather numerous obstetrical specialists who are performing Caesarean operations indiscriminately. In this condition, as well as eclampsia, the mortality of the procedure must be considered. Statistics were gathered from a number of small city hospitals a few years ago which indicated that maternal mortality from the Caesarean operation ranges from 10 to 25 per cent. It would seem that the advocates of its wide application in eclampsia and placenta previa have had in mind only the results attainable in their own hands. To my mind the Voorhees bag procedure is the one that should be urged, except in cases with long, rigid os, as the maternal mortality in the hands of the average obstetrician will necessarily be lower. The pathology of placenta ablatio makes the Caesarean section the logical procedure.

I cannot subscribe to Doctor Welpton's statement that the mother has the right to decide the procedure to be followed. Many times a woman pleads for Caesarean because some friend has told of the easy way out that this procedure offers. The judgment of a woman in labor should not be decisive when such a heavy responsibility is resting upon the physician, as obtains in the conditions under discussion.

Neither can I subscribe to Doctor Welpton's second point in regard to safety of the second Caesarean, because it is possible that the woman may pass into less capable hands in the second instance.

The high cost of sickness is causing changes. There is a growing demand that this cost be distributed over large population groups. The principle of insurance against sickness is being applied in different ways. In some countries the state system of compulsory insurance has been adopted. Elsewhere, hospital associations and sick benefit societies are, for a small weekly or monthly fee, guaranteeing free care in case of illness. Industrial groups are providing medical hospital care in return for small sums deducted from the wages of employes and supplemented by contributions from the companies. Such developments, which are multiplying rapidly, have a bearing upon the future of the medical profession.—President Vincent of the Rockefeller Foundation, Ohio Medical Journal.

"A Chinaman had wandered from a cook-house in Yellowstone National Park in winter. Looking back over his shoulder, he saw a bear sniffing at his tracks and rapidly gaining on him.

"He called out shrilly, as he began to run: 'You likee my tracks? I makee you some more.'"

THE DIFFERENTIAL LEUCOCYTE COUNT IN ACUTE INFLAMMATORY CONDITIONS OF SURGICAL IMPORTANCE

By NEWTON EVANS, M. D., AND PHILLIPS J. TUNNELL, M. D., *Loma Linda, California*

Impressions gained from the differential leucocyte count are of the greatest importance in surgical and other inflammatory conditions.

One of the most important places where help can be gained from the polymorphonuclear differential count is in making initial pre-operative diagnosis in acute appendicitis and its abdominal complications. A failure to make use of this will, in some instances, lead to disaster.

Among the most striking exceptions to the general rule is the remarkable rise of the total leucocyte count, with an apparent elevation of the Walker's Index of Resistance, which occurs in many fatal cases of peritonitis and similar inflammatory conditions, within the last few hours before death.

DISCUSSION *by John V. Barrow, Los Angeles; Howard Dignan, San Francisco; Clarence A. Johnson, Los Angeles; Ernest A. Victors, San Francisco.*

OUR purpose in presenting this study is not to try to add any essential facts to the information already available in regard to the meaning of white cell counts in acute infectious conditions. Rather, it is an effort to call to your attention the well-authenticated facts regarding the significance of the leucocyte counts, and to emphasize at least by reiterating their importance.

The available literature makes it evident that the *differential* leucocyte count is a measure of great importance in the diagnosis and prognosis of acute infectious conditions. In the face of this, the extreme paucity of articles dealing with the subject in the medical literature of the past twenty years is rather surprising; and personal observation as to the lack of appreciation and use of this simple test in the handling of acute surgical conditions by the average surgeon makes it evident that it is not given the attention its importance deserves.

The two ordinary methods of numerical estimation of leucocytes in the circulating blood are: First, the total leucocyte count indicating the total number of white cells in a given volume of blood, expressed as the number per cubic millimeter. This is determined by the use of the diluting pipette and the blood-counting slide. Second, the differential count to determine the relative proportion of the various kinds of white cells in a specimen, expressed as percentages of the different forms, accomplished by observation of a given number of leucocytes in a stained smear of the blood. For the purpose of the present subject, attention is given only to the proportion of the polymorphonuclear leucocytes to the other forms.

Our observation of the methods of handling acute infections of surgical importance in well-regulated hospitals and of the practice of a large proportion of surgeons is that they are largely uninformed as to the meaning and value of the differential count, or at least have forgotten to apply such information if they ever had it, in the treatment of this important class of patients. Speaking from the viewpoint of the clinical pathologist, we have on many occasions been surprised at the great dependence which many surgeons place upon the total leucocyte count in making the initial diagnosis of acute appendicitis.

In the presence of fairly characteristic symptomatology and physical findings, they will call for a total leucocyte count and make their decision depend to a latge degree upon the results of such a leucocyte count. To one who has given some study to the relative importance of the differential count, as compared to the total count, this seems a strange and unwise course to pursue.

The fact has been recognized for many years that there is a type of cases (fortunately a comparatively limited group) with acute pyogenic infections, in which, in the face of a severe infection, there is only a moderate increase or perhaps no increase of the total number of leucocytes above the normal average of seven or eight thousand, but in which a differential count will reveal a remarkable preponderance of the polymorphonuclear cells over the other forms of white cells so that, instead of the normal percentage of 60 to 70, the polymorphonuclears will constitute 90 per cent, or even more.

An extensive and systematic study of this subject was first made by Sondern (1905, and subsequently). His conclusions were based on a study of nearly two thousand surgical cases of this type. His chief contentions have been confirmed by all subsequent observers. His principal conclusions may be stated as follows:

1. "The differential leucocyte count is a factor of prime importance in the diagnosis and prognosis of most inflammatory lesions, and with a knowledge of its details the degree of leucocytosis has a significance not appreciated otherwise."

2. The increase in the relative proportion of polymorphonuclear cells in the blood is an indication of the severity of the toxic absorption; that is, of the infectious process.

3. The degree of leucocytosis—that is, the total number of white cells per cubic millimeter of blood —is a measure of the body resistance, or defensive reaction against the infection.

With these principles in mind, their application may be elaborated as follows:

(a) A high total leucocyte count, with a moderate increase of polymorphonuclears, will indicate a comparatively light infection with good body resistance.

(b) A high total count, with a correspondingly high polymorphonuclear increase, will indicate a severe infection with good reaction.

(c) Slight or no total increase, with a marked rise of polymorphonuclear percentage, indicates a severe infection with poor body resistance.

These conclusions have been confirmed and accepted by other observers. Louis B. Wilson, whose conclusions in general are in accordance with Sondern's ideas, points out certain factors which appear as exceptions to the rule. In children the leucocyte counts are recognized as not being so dependable as in older subjects. In moribund patients there may appear some peculiar exceptions. Wilson also pointed out that in acute infections the leucocyte findings are of the greatest significance from the fourth to the eleventh day of the course of the disease.

Gibson, in 1906, formulated a rule as to the normal relationship between the total increase and the polymorphonuclear increase in the reaction of the body to infection. He set 10,000 as the upper limit of normal total leucocyte count, and 75 per cent as the upper limit of normal polymorphonuclear percentage, and advanced the rule that, with each 1000 increase of total leucocyte count above 10,000, there should be a corresponding increase of 1 per cent in the polymorphonuclear percentage, above 75 per cent. For example, if in a given case of infection the total count is found to be 20,000—that is, 10,000 above the normal 10,000—the polymorphonuclear percentage should be found to be 85 per cent, which is 10 per cent above the normal, 75 per cent.

Walker (1919) elaborated these relationships still further. His ideas are practically in accord with Gibson's, except that he sets the upper limit of normal polymorphonuclear percentage at 70 instead of 75 per cent. Walker also prepared graphic charts intended to exhibit the relationship of the total count to the percentage of polymorphonuclears in infectious conditions, and to show the changes in this relationship from day to day as successive leucocyte counts are made. Since the appearance of Walker's work, it has become quite the usual thing to speak of the numerically expressed relationship of the total count and the polymorphonuclear count as "Walker's Index of Resistance."

A recent case in a hospital, with which we are associated, serves to illustrate in a rather striking way the significance of the differential count as compared with the total leucocyte count, and the danger of putting any large degree of dependence upon the total count only. This patient, a man 26 years old, came into the hospital, presenting rather definite symptoms and physical findings of acute appendicitis. An able surgeon of the hospital staff, after examining the patient, asked for a blood count, stating to the clinical pathologist that if the total leucocyte count should prove not to be abnormal it would be unnecessary to go to the trouble of making a differential count. The total count was made and proved to be 7600. It transpired that at this point a second staff member, who has learned to have much respect for the differential count, insisted that a differential count be made. Such a count was made, and showed 85 per cent of polymorphonuclears. A consultation was held and decision to operate at once agreed upon. At operation the diseased appendix was found to be gangrenous and perforated. The recovery of the patient has been prompt. An intelligent review of the facts of the handling of this case forces the conclusion that the few hours or longer of additional delay which might have followed complete dependence upon the total leucocyte count would certainly have entailed at least an increased hazard for the patient, if not worse.

An acceptance of these hypotheses, if they must be so denominated, will force upon us the conclusion that in making a pre-operative diagnosis of the presence of such an acute inflammatory condition as acute appendicitis, or in trying to determine the degree of severity in a case which is recognized as acute appendicitis, *in order to decide upon the necessity of an immediate operation, the differential count*

is certainly of greater importance than the total count. If the percentage of the polymorphonuclears is a dependable indicator of the presence and degree of severity of the infectious process, it is of greater importance for the surgeon to know as to its presence and severity than it is to be informed as to the quality of the body resistance to the disease process. If the lesion is present, the operation is indicated whether the body is reacting poorly or well.

A very important contribution to this feature of the subject was made by Noehren (1908). He showed, by a careful classification of a rather large series of acute appendicitis cases, in which total and differential leucocyte counts were made, that there was a definite parallelism between the percentages of polymorphonuclears and the severity of the lesion present, the higher percentage corresponding to the more severe condition, such as diffuse and spreading peritonitis and gangrenous appendix; and that in the more simple and less severe lesions the differential counts were lower. On the other hand, his tables show that there is no such definite parallelism between the total leucocyte count and the severity of the case.

In the series of cases which we have studied we have tabulated thirty-one in such a manner as to compare the severity of the lesion with the polymorphonuclear percentage. A study of these thirty-one cases bears out quite fully the conclusions at which Noehren arrived in his statements.

Cabot states that "most subsequent observations have tended to verify Sondern's theory." He further states: "The most virulent and overwhelming infections are apt not to be accompanied by leucocytosis. Thus, for example, the most virulent cases of pneumonia, diphtheria, and general peritonitis often run their courses without leucocytosis."

In Walker's work, extensive observations were made on the white blood count in pneumonias, influenza, empyemas and related conditions. These observations show that the conclusions reached, in regard to appendicitis, peritonitis, and such types of infection met by surgeons, are also applicable here.

CONCLUSIONS

First. The study of the cases which we have collected in the preparation of this paper leads us to believe that, in the main, the conclusions of Sondern and those who have corroborated his work are based upon sound principles, and that the impressions gained from the differential leucocyte count are of the greatest importance in surgical and other inflammatory conditions.

Second. One of the most important places where help can be gained from the polymorphonuclear differential count is in making initial pre-operative diagnosis in acute appendicitis and its abdominal complications. A failure to make use of this aid will, in some instances, lead to disaster.

Third. Among the most striking exceptions to the general rule is the remarkable rise of the total leucocyte count with an apparent elevation of the Walker's Index to Resistance, which occurs in many fatal cases of peritonitis and similar inflammatory conditions, within the last few hours before death.

DISCUSSION

JOHN V. BARROW, M. D. (Westlake Professional Building, Los Angeles)—The importance of Doctor Evans' paper cannot be overestimated. We have too little proven knowledge of the behavior of the leucocytes in varying health and disease conditions. All of us have met the particular clinical picture so well described: the low white cell count, the relatively unimportant differential count, and a very grave pathological condition. Through our study of hundreds of protozoan infected patients, we have come to the conclusion that protozoan toxins measureably affect the leucocytes in both total number and in differentiation. The rule in the blood picture in these patients is a depression of white cells to a low normal and a leucopoenia. At the same time the polymorphonuclears are reduced toward and below 50 per cent. In the presence of a bacterial infection this picture may change, but the rise in total white cell count will be slightly behind the increase in polynuclear cells. This type of case is not a bad surgical risk, but, on the contrary, usually has an "uneventful recovery" after operative procedure. The colon, and more particularly the caecum, carries the burden of a protozoan infected bowel. For this reason the appendix is often involved in the above type of case. After perforation and before peritonitis has advanced too far, the blood picture in the case cited by Dr. Evans is the one that generally prevails.

HOWARD DIGNAN, M. D. (275 Post Street, San Francisco)—Doctor Evans has given us a very timely summary of the value of the differential leucocyte count. I agree with him that its value is too often overlooked, especially in those cases where the total leucocyte count is low and where the differential is of the most importance. His paper leads us into speculation as to the reason for high leucocyte counts in some acute infections, moderate ones in others and a leucopoenia in still another group. Why do the specifix toxins in pneumonia stimulate leucocytic production and the toxins of typhoid fever inhibit it?

I believe that in some of the pneumonias, septicemias and peritonitis cases where we find a very low leucocyte count with a high percentage of polymorphonuclears, the reason is not always due to the patient's low resistance, but to perhaps a slightly different toxin elaborated by that specific organism.

I remember our early efforts to increase the leucocyte count in these cases by the production of turpentine abscesses in the abdominal wall and the injection of various irritating solutions intravenously. I do not remember any noticeable benefit being derived from these methods.

When we know more about the nature of these toxins, we will, perhaps, be able to increase the leucocyte count, or decrease it at will. They may then become of great therapeutic value, whereas today their greatest use is for diagnosis.

CLARENCE A. JOHNSON, M. D. (523 West Sixth Street, Los Angeles)—This discussion of white cell enumeration, which Doctor Evans has so ably and kindly brought to our attention, is a principal which I have tried to follow in all the acute surgical cases which have come to my attention. I recall, very distinctly, two patients seen during the last year, with a comparatively low leucocyte count, and on further study, with a second count done, found that the leucocyte count had not increased appreciably, but that the polymorphonuclear percentage count had increased from 78 per cent to 85 per cent in the course of six hours.

I do not see how we can attach more importance to one than the other of these salient points which Evans has brought out as they are both of great importance to us in acute surgical conditions, and I believe that all surgeons should insist on having both these examinations done before opening an abdomen suspected for acute trouble.

ERNST A. VICTORS, M. D. (133 Geary Street, San Francisco)—From my own experience the findings of a high polynuclear cell count with a relatively normal total leucocyte count is not an extreme rarity. I think that

we are all on the lookout—even some surgeons—for these atypical leucocytoces. Nor am I so prone to view all such disturbed ratios as indices of failing resistance. We sometimes see the leucocyte picture reversing itself in the course of a disease and assuming no parallel with the rise or depression of resistance.

It is in the early stage of a pyogenic process, when the blood count is of greatest importance, that a discrepancy between the total and polynuclear rise presents its annoying conflict. Doctors Evans and Tunnell rightly emphasize the importance and pus indication of a high polynuclear count, irrespective of a total cell increase, yet these counts are also not infrequently seen when the process does not go on to suppuration.

In non-pyogenic conditions, acute meningitis, pneumonia and erysipelas, the total polynuclear ratio is less uniform than in closed cavity infections. Fortunately they are not as significant. In the resolution stage of a pneumonia, with the fall in total count, but maintenance or elevation of the polynuclear count, the development of an empyemia is indicated.

A NEW TECHNIQUE OF UNMODIFIED BLOOD TRANSFUSION

By LEROY BROOKS, M. D., *San Francisco*

Technique described and its advantages pointed out.

DISCUSSION *by Leo Eloesser, San Francisco; J. F. Cowan, San Francisco.*

IT IS agreed by the majority of the leading men in the profession that the transfusion of unmodified blood is preferable to the transfusion of citrated blood. The advocates of the latter method have as their strongest point the simplicity of the technique of making the transfer. The method to be described here is a modification of that of Kimpton-Brown.

A short time ago I demonstrated the apparatus used at a meeting of the San Francisco County Medical Society and since that time, about once a week, I have been asked by some physician to give, over the telephone, the details of the technique involved. For this reason I feel that publication of these details will not be out of place.

The apparatus consists of paraffin-coated tubes, needles with obturators, and a pressure suction bulb. The tubes are modifications of the Kimpton-Brown tubes with a capacity of 300 cc. The tip of the tube is ground to fit the hub of the needles, and is the same size as the tip of the 50 cc. Luer.

The needles range in size from gauge 10 to 14, and are equipped with obturators which completely fill the needle, including the hub. The pressure suction bulb blows at one end and sucks at the other, as its name indicates.

Contrary to what has been said by some, the preparation of the tubes is simple. After the tubes have been washed and thoroughly dried, a piece of paraffin (parawax) one cubic inch in size is put in the tube, and the cork inserted and tied securely with a string over the cork and around the tube below the airway. The tube is placed in the autoclave and sterilized. It is then removed and the liquid paraffin allowed to run over the entire surface of the inside of the tube, and the surplus allowed to run out from the airway. By allowing a little of the melted paraffin to escape from the tip of the tube immediately upon removing the same from the autoclave, a thin coating of this tip is insured which does not decrease the bore of its caliber enough to cause difficulty. The top of the tube is emerged in a basin of hot liquid paraffin, which seals the cork. The tube is then wrapped in two sterile towels and may be used any time up to four weeks after preparation.

The needles and obturators are dry-sterilized and kept in test tubes with a small amount of liquid petrolatum to prevent rusting. Each test tube has a pledget of cotton at the bottom, and only one needle is put in a tube to prevent dulling the points.

This entire process can be carried out in rural districts, using the oven of the ordinary cooking stove instead of the autoclave, and to be sure sterilization has been complete a piece of white gauze should be placed in the oven and the heat continued until the gauze is scorched to a light brown color.

The transfusion may be carried out in the operating room, a hospital room, or at home, and can be performed by one person.

First, a needle is inserted into the vein of the recipient and plugged by the proper obturator, which, because of the perfect fit, completely fills every part of the hollow of the needle, preventing loss of blood or, what is more important, the beginning of a clot in this needle while the blood is being drawn from the donor. Another needle is now inserted in the selected vein of the donor, usually at the elbow, the paraffin-coated tube attached, and by means of the pressure suction bulb, which is attached to the airway of the tube, a vacuum is created and 300 cc. of blood can be collected in the average case in less than one minute. The tourniquet is now released (Tycos blood pressure apparatus at a pressure of about 50 to 90 pounds is the best tourniquet), the tube is disconnected and held tip up and this needle plugged by the proper obturator. The pressure suction bulb is reversed. The obturator is removed from the needle in the recipient's vein, the paraffin tube quickly attached and the blood injected by means of the bulb. It is not necessary to inject it too rapidly; usually from one to two minutes is used. *It is most essential that the pressure bulb be released from the airway just before the last of the blood is injected, to prevent injecting air in the vein of the recipient. This is made easier by not forcing the rubber tube of the bulb too tightly over the airway of the paraffin tube.*

This process can be repeated as often as necessary until the desired amount of blood is given, each time using a fresh paraffin tube.

In a few instances one has to expose the collapsed vessel of the depleted recipient, especially in small children. When this is necessary the vein should be isolated, a ligature passed around it and tied. The vein is then opened above the ligature, a selected needle inserted, and a second ligature tied around the vein and the needle to prevent back-leaking when the blood is injected. With practice, one will find that very few cases require the open incision. It has not been necessary to expose the vein of a donor, but should it be, the procedure is the same, except the point of the needle is directed away from the heart.

The ground tips of the paraffin tubes fit the adapters universally used with large Luer syringes and standard Luer needles. This makes transfusion in infants through the fontanelle simple when a vein large enough to be used is not available. A Gold-

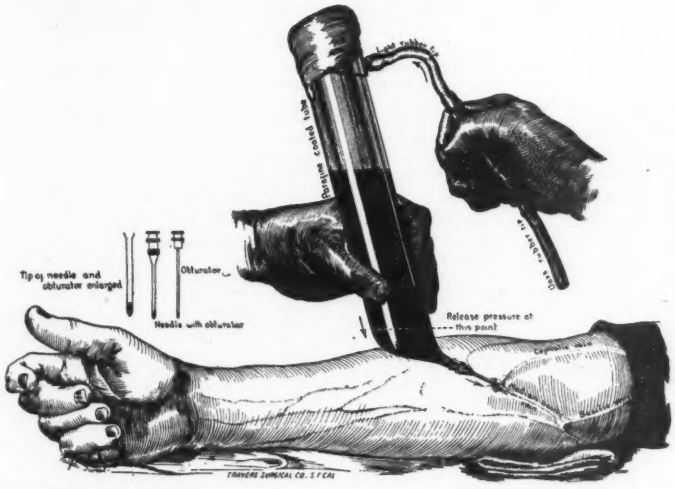

Illustration I. Shows blood being injected into one of the veins at the elbow by means of the paraffine coated tube with special needles which fit the tip. The glass cylinder has a capacity of 300 ccs. (half a pint). The right hand of the operator is shown forcing the blood into the vessel by means of the rubber bulb.

bloom needle is inserted in the superior longitudinal sinus through the anterior fontanelle and the paraffin tube connected to this needle by means of the large Luer adapter. The blood from the donor is collected in the same way, as described above.

To have uniform success, the details must be accurately followed. The needles should be sharpened each time before attempting to insert them into the vein. The needles must be inserted in the veins in a clean-cut fashion.

One should never attempt to enter the vein until the skin has been punctured, because of the danger of going through both walls of the vein. If a hematoma should form, the operator should not proceed with this vein. It is often possible to collect one tube of blood before the pressure of the blood outside the vein collapses its walls, but there is added to the blood, from the injured tissue, enough thrombokinase to cause rapid clotting of the collected blood.

The advantages of this method over that of Kimpton-Brown are apparent, as it is not necessary to expose and destroy the vein of either donor or recipient, an essential when using professional donors. The mechanical injury to which the blood is subjected is reduced to a minimum, as it does not come in contact with any rough surface, such as rubber tubing, etc. The blood is transferred while still warm and before any coagulation changes have taken place, preventing many reactions.

This method has been used by me 178 times, without a failure to transfuse the desired amount of blood. Both grouping and cross-aglutination tests are done as a routine, and out of this number there have been only four reactions.

The advantages of whole blood over that of the citrated blood are well known, and the technique is equally if not more simple, and can be used successfully by anyone who can routinely successfully perform a citrated blood transfusion.

380 Post Street.

DISCUSSION

L. Eloesser, M. D. (Butler Building, San Francisco)—Dr. Brooks' detailed exposition of technique is very welcome. We are all agreed that it is better to transfuse unaltered blood rather than citrated blood. Everyone who has done enough citrate transfusions has got into trouble sooner or later, and unless he is uncommonly stubborn, has forsaken the citrate method. Dr. Brooks' method has the advantage over Kimpton-Brown's of not requiring an incision. In these days of wholesale transfusions and professional donors, this detail is of some importance. Many professional donors stipulate that their veins shall not be cut down upon. I have been satisfied with the Kimpton-Brown method. It is perhaps technically a little easier than Brook's, but that is not the question. If Brooks' satisfies the donor, his is the better.

It may be easier to nick the skin with a cataract knife before trying to insert the needle into the vein. If the needle is not properly inserted, a large hematoma forms which takes several weeks to absorb. Twice I had trouble with the needle and had to forsake it for the Kimpton-Brown tube. Doctor Brooks' series of 178 cases without a failure speaks for itself, however, and is evidence enough of the practicability of his ingenious method.

J. F. Cowan, M. D. (Lane Hospital, San Francisco)—Doctor Brooks has given a clear and concise description of his modification of the Kimpton-Brown method of blood transfusion. The history of blood transfusion is that of a series of endeavors to simplify the technique

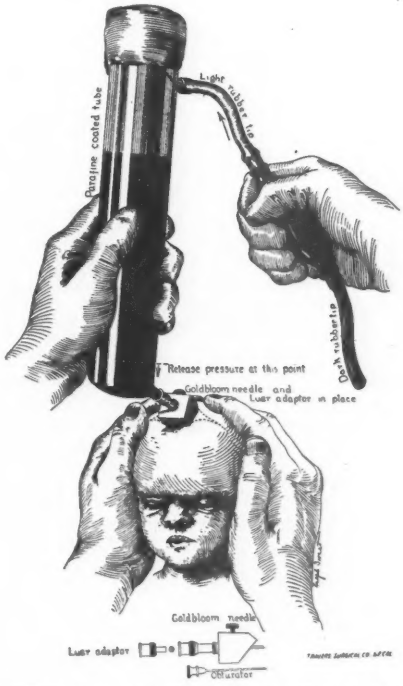

Illustration II. It is impossible to insert a needle into the tiny blood vessels in infants because of their small size. The picture illustrates a special needle with the tube connected. The needle is inserted into the fontanel (the soft spot in the top of the head in infants) into a large blood vessel which is always present in this location and the blood is injected here.

of the procedure. Arterio-venous anastomosis required dissection and a master hand for the delicate suturing. The use of various types of cannulae was time-consuming, and coagulation of blood in the cannulae was troublesome. Furthermore, there were no means of direct determination of the quantity of blood given the recipient.

The citrate methods, with the use of syringes or defibrination of blood and its introduction into the vein by the gravity method, eliminated coagulation and gave us a means of measuring the quantity used; but these methods require considerable time and are cumbersome, and reaction is believed to follow the citrate method more frequently. The statement is made that some reaction occurs after 10 per cent of all transfusions and that the percentage is unaffected whether whole or citrated blood is used. Lewisohn investigated the effects in a long series of parallel cases in which different methods were employed, and concluded that the results following the use of citrated blood were as good as any other method. In my experience, reaction has followed the use of the citrate method only. More important, however, than the question of possible reactions following transfusion is the rapidity and ease with which it can be performed. The ease and rapidity with which Brooks performs transfusion with his new technique in the patient's room, with the assistance of one nurse, suggested to me that this was by far the simplest technique that I had ever seen. When I attempted to do the same thing, I concluded that it would be very simple if it were not so difficult to insert the large cannula into the vein. This, however, is a matter of a little practice.

As suggested by Doctor Eloesser, I have found that nicking the skin before trying to insert the cannula is helpful, and it is important to have the end of the cannula sharp. I noticed that Brooks has a sterile hone in his armamentarium for this purpose. Having seen Dr. Brooks perform transfusion, and having used it in several cases myself, I am convinced that his method is practicable. His results certainly confirm his claims.

Doctor Brooks (closing)—The most important single factor is the insertion of the needle into the vein in a clean-cut manner. One cannot escape the fact that practice helps in this connection.

Doctors Eloesser and Cowan have both spoken of nicking the skin with a cataract knife and inserting the needle through this point. This is, I believe, a very good suggestion, especially if the needles on the market are used as they are offered. I have not found this necessary, however, because I have my needles sharpened so that the point and the edges of the bevel present a very sharp cutting edge. This makes the insertion of the needle through the skin very easy and practically painless. One should not attempt to enter the vein until after the skin has first been definitely punctured. This is made easier by retracting the skin over the vein slightly to one side to make the puncture.

Since this paper was sent to the editor, I have had thirty-eight additional transfusions, without a single reaction. I am frequently asked as to where the tubes and needles may be had. They are handled by Travers Surgical Company in San Francisco.

To have had an operation of some kind is an asset to the modest entertainer, to have had an operation requiring the patient to be two hours under the anesthetic is a superior asset and entitles the sufferer, or beneficiary, as the case may be, to a certain amount of recognition; but to have been miraculously healed of some real and indescribable, or imaginary ailment is the superlative asset and assures the favored one of the envy of all her friends.—Editorial, Journal Kansas Medical Society.

In its proper sense, reading is a process involving the exercise of the intellect. It is not a passive method of infiltration; it is an active mental function, during which the mind constantly reacts to impulses gathered from the page, bringing into play the qualities of judgment, analysis, a score of others.—O. J. Lewis (Saturday Review).

You know who the critics are? The men who have failed.—Disraeli.

THE TREATMENT OF HERPES ZOSTER

By Harry P. Jacobson, M. D., *Los Angeles,*
(From the Department of Dermatology, Los Angeles General Hospital)

This study is based upon a series of twelve cases of herpes zoster treated successfully by red light.

An important feature worthy of mention in connection with this treatment is the absolute arrest of the disease process and its extension when treatment is begun early.

The employment of red light in the treatment of zoster lesions seems to prevent suppuration in early cases, hastens crusting and resolution in suppurative cases and prevents deep scarring in all patients, no matter how severe the eruption.

Exposure of the segment of the spine corresponding to the region of the affected posterior root ganglia to the red light seems to alleviate the associated neuralgic pain, which is such an annoying symptom in herpes zoster.

Discussed *by E. K. Stratton, M. D., San Francisco; F. C. Nichols, M.D., Los Angeles; W. J. Stone, M.D., Pasadena; H. E. Alderson, M.D., San Francisco.*

THE purpose of this communication is to register some observations on the efficacy of red light in the treatment of herpes zoster. My attention was attracted to this method of treatment by H. Edward Ohlswede (Arch. of Derm. & Syph., October, 1923). That author extols the virtues of red light in the treatment of various dermatoses, and presents a number of case histories in support of his enthusiasm. Quoting Finsen and many other recognized authorities on the subject as a background, he advances the theory that, in view of the directly antagonistic positions that the red and ultra-violet rays occupy in the scheme of the spectrum, the therapeutic effects of these two agencies must necessarily also be antagonistic in character. Thus, while the ultra-violet rays, when employed for therapeutic purposes, provoke hyperemia and inflammation, the red rays when employed similarly should allay inflammation—one type of ray counteracting the effects of the other.

With the above plausible considerations as an incentive before me, I decided to give this method a trial and chose herpes zoster for the purpose.

Herpes zoster is distinctly an acute inflammatory disease and, in accordance with the above theoretical reflections, should react favorably to the application of the red rays; and while in the absence of complications this disease process is self-limited, frequently, and especially in the aged and the infirm, traumatism or secondary infection are superimposed, and then the condition assumes a more serious aspect, taxing our therapeutic resources to the limit, in a vain effort at alleviating the suffering of the patient. As an illustration of what the red light will accomplish in these complicated cases, the following case histories will serve as examples:

Case No. 1—Male, American 60 years old, hotel clerk, sustained an injury to his back through a fall September 26, 1923. Two days following that accident he developed severe neuralgic pain on the right side of the body in the dorsolumbar region anteriorly and posteriorly. About twenty-four hours after the onset of pain a vesiculo-papular eruption made its appearance in that region. Gradually, in spite of intelligent and diligent treatment at the hands of the family physician, the condition grew progressively worse. The herpetic lesions became secondarily infected and caused the patient a good deal of discomfort and pain.

On October 27, I saw this patient with Dr. Stoner.

There was an area of infiltration on the right side of the patient's body corresponding to the region supplied by the sixth to the tenth dorsal nerves. This infiltrated area was studded with numerous sluggish ulcers arranged in groups which were fairly deep in extent and contained a sero-purulent exudate. In spite of the condition having endured more than four weeks, there was no evidence of healing.

The treatment instituted consisted of exposure of the lesions to the red light daily for a period of twenty minutes at a distance of 24 inches from the focus of the ray. After five such exposures, the patient was discharged as completely cured.

Case No. 2—Male, 69 years of age. Referred to me by the out-patient department of the Los Angeles County Hospital August 12, 1924, and discharged as cured August 16, 1924.

His present illness commenced with a stinging and burning sensation on the right side of the body about sixteen days prior to his first visit to the office. Two days following the onset of pain a papulo-vesicular eruption appeared in the back and front in the region of the liver. Since that time various remedies had been tried, and in spite of all efforts the condition had grown progressively worse. He complained of having lost 19 pounds in weight since the onset of the trouble, due to sleepless nights, and volunteered the information that unless relief was afforded him soon by medical means he would do something desperate.

Examination showed involvement similar to that of the first patient. There was an infiltrated area in the same region and approximately of the same extent as in the first patient, except that the ulcerations seemed to have been more numerous. As in the first case, the lesions were exposed to the red light daily for twenty minutes and on the fifth visit the patient was discharged as clinically cured.

Here we have an example of herpes zoster complicated by secondary infections in patients of fairly advanced age and below par physically. When presenting themselves for treatment the condition in one patient had endured four weeks, and in the other patient sixteen days. There was no evidence of improvement subjectively or objectively in either case, in spite of intelligent and diligent medical care. Five exposures to the red light on five successive days for twenty-minute periods accomplished a clinical cure in both cases, except that one of these patients complained of some post-herpetic pain at the time of discharge.

In addition to the cases cited, ten others were treated successfully by the same method. In this group there were seven males and three female patients, in ages ranging from 9 to 70 years. The duration of the disease at the time the red light treatment was begun averaged five days. The eruption was situated on the trunk in five patients, involving the region supplied by the sixth to the tenth dorsal nerves in four, and in the fifth the pectoral region alone was implicated. One patient had an involvement of the gluteal region and the lower abdominal quadrant on the right side. In one there was an extensive involvement of the neck, chest, shoulder and arm, and in another the neck only was involved. There was one case of supra-orbital zoster, and another patient presented lesions on both lips and right cheek. The number of treatments required for a clinical cure in these patients varied from two to six.

ANALYSIS

This study is based upon a series of twelve cases of herpes zoster treated successfully by red light. The most striking feature noted in the treatment was the rapid involution of the lesions, usually beginning after the first exposure to the light. As already indicated above, the process of complete involution is accomplished in a period of two to six days, depending upon the severity and extent of the involvement, and consists of a desiccation of the contents of the vesicles with a conversion of the inflammatory products into thin, loosely adherent crusts which separate and fall off easily.

An important feature worthy of mention in connection with this treatment is the absolute arrest of the disease process and its extension when treatment is begun early. This fact was demonstrated, to my satisfaction, by two patients in this series—one who presented herself with an early zoster with only two groups of lesions on the neck, with evidence of more lesions in the process of evolution, and the other with a pectoral involvement—also an early case. Institution of early treatment in both of these patients apparently prevented an extension of the disease process, and reduced the required number of treatments to two in accomplishing a clinical cure.

One more point which should be emphasized in recommending this method in the treatment of herpes zoster is the absence of deep scarring and pigmentation, so common following the treatment of severe cases by other methods, and so uniformly absent in even the most extensive cases treated by the red light. This feature becomes of especial importance when the patient happens to be a female with involvement of some exposed part of the body. There was one such case in this series—the wife of a physician, very prominent socially, who had a severe and extensive involvement of the neck and upper part of the chest, shoulder and arm, and who presented herself for treatment about six days after the lesions were fully developed. Fortunately, the skin lesions involuted completely in five days, though the patient continued to suffer from post-herpetic pain for some time after their disappearance.

TECHNIQUE

The technique of the treatment is very simple. The patient undresses, and the affected part is exposed to the red light for a period of twenty minutes at a distance of twenty-four inches from the focus. The source of light consists of a thousand-watt red globe, so adjusted that its rays will strike the lesions in a perpendicular direction. These exposures are repeated daily until the lesions are completely involuted. It is also advisable to expose the spinal column in the region of the seat of the trouble to the rays of light for the immediate sedative effect which this treatment exercises.

OTHER METHODS OF TREATMENT

That the more usual methods of treatment of herpes zoster are not entirely satisfactory, may be judged from the variety of remedial agents ordinarily employed. These include internal as well as external remedies, and comprise ointments, lotions, pastes, cuppings, plasters, ethyl chloride sprays, opiates, and other narcotics and various electric currents, such as the galvanic faradic, high frequency, and the roentgen ray.

One recent therapeutic suggestion employed with

success by its author is offered by Howard Fox. It consists of an occlusion paraffine dressing applied by means of an atomizer. Fox has reported a series of seventeen patients treated by this method with uniform success. It is quite obvious, however, that even this method, though satisfactory as far as ultimate results are concerned, is not as attractive in its application as might be desired. It entails the use of oil, cotton, bandages, thus adding discomfort to the already existing misery of the patient. The objectionable features are entirely obviated by the use of the red light.

But it may be asked whether our judgment may not be biased in favor of red light, since it is natural to become enthusiastic about anything in which one is especially interested. To meet any criticism of the sort, I shall cite a few historical facts dealing with the subject and, if possible, indicate the wide favor that this remedy has enjoyed at the hands of prominent physicians, even centuries ago.

HISTORICAL

As early as the fourteenth century the application of the principle of photo-therapy was practiced on the son of King Edward I, who was suffering from smallpox. He was treated by being placed in bed, covered with scarlet blankets, and with scarlet hangings covering the walls of the room; gargling his throat with mulberry wine, and sucking the juice of red pomegranates. He recovered completely from the attack, without any trace of the disease remaining in evidence.

Also in the time of Queen Elizabeth the value of red curtains, red coverlets, and red glass about the bed of smallpox patients was loudly proclaimed by certain physicians.

In more recent times many instances of the empirical but successful employment of red light in the treatment of the exanthemata and in other dermatoses are recorded in the literature. In 1893 there was an epidemic of smallpox in Norway, and Lindholm used the red light to good advantage. In describing the results obtained by the use of red light in smallpox, his assistant, Svendsen, says: "The period of suppuration, the most dangerous and most painful stage of smallpox, did not appear; there was no elevation of temperature and no edema. The patients entered the stage of convalescence immediately after the stage of vesiculation. The hideous scars were avoided. In the same year George H. Fox, in this country, made a study of the effects of red light on smallpox. The method was tried on a few cases only in the Riverside Hospital, New York, under the direction of Cyrus Edson. The results were entirely negative.

In 1895 Finsen collected reports from a number of physicians in different European countries who have treated smallpox by means of red light. The total number of cases so treated were seventy, with complete success in sixty-nine. Based upon these results and a series of original experiments, Finsen attempted to give the practice of photo-therapy a scientific explanation, and formulated a set of guiding rules for the treatment of smallpox by this method. In 1897 Montague L. B. Rood, surgeon in the British Royal Navy, used the red light in the treatment of smallpox, with results surpassing his highest expectations. In 1903 Jay F. Schamberg tried the red light method on two cases of smallpox with completely negative results. In publishing these negative results the author utilizes the occasion for a criticism of Finsen's explanation of the action of the red light in smallpox.

In the same year (ten years since Finsen's first advocacy of red light as a therapeutic agent in smallpox) Finsen published the results of a large series of cases of smallpox treated by red light by twenty physicians in different European countries, with uniform success in all of them.

There are, in addition, many other reports on record of the value of red light in smallpox. While some of these reports minimize the value of this method, the consensus of opinion is, that the employment of this agency in the treatment of this disease results in the total or partial suppression of suppuration and its concomitant fever and the absence of scarring.

Assuming that the reported observations are reliable, it appears that, in view of the similarity of the pathological process in herpes and smallpox, there should be a similar reaction to a common therapeutic agent in both conditions.

From the meager experience afforded by the twelve cases of zoster in this series, I am prepared to corroborate the observations recorded in the literature by the above-mentioned workers. The employment of red light in the treatment of zoster lesions seems to prevent suppuration in early cases, hastens crusting and resolution in suppurative cases and prevents deep scarring in all patients, no matter how severe the eruption. In addition, the exposure of the segment of the spine, corresponding to the region of the affected posterior root ganglia to the red light, seems to alleviate the associated neuralgic pain, which is such an annoying symptom in herpes zoster. These salutary effects are apparently produced by a direct action of the red frequency upon the seat of the disease process. This ray, whose wave length is the longest of any in the visible spectrum, penetrates deeply to the inflammatory process, re-establishing there the circulatory equilibrium, stimulates the cellular elements concerned in the disposal of the inflammatory and hemorrhagic products, and hastens resolution.

SUMMARY AND CONCLUSION

1. A series of twelve cases of herpes zoster treated successfully by the red light is reported.

2. The advantages of the treatment consist of the simplicity of the method, the rapid involution of the lesions, the prevention of secondary infection, and elimination of post-herpetic scarring and pigmentation.

3. While in most cases the employment of this remedy stops the pain permanently, in two cases of this series the patients complained of pain after disappearance of the lesions. Intravenous administration of sodium iodide in small doses to one patient soon stopped this annoying symptom permanently.

4. A partial review of the literature on the subject is submitted, containing evidence of the successful application of the principle of red light in the

treatment of smallpox as far back as the fourteenth century.

5. A possible explanation of the modus operandi of the action of this ray is offered, and is based upon the belief that this frequency of the spectrum penetrates to the seat of the pathology in these cases, where it acts as a cellular stimulant and nutrient and equalizes the circulatory imbalance.

6. It is admitted that the number of cases here recorded is entirely inadequate from which to draw absolute deductions. However, we feel that the evidence so far adduced is sufficient to justify its further employment, not only in herpes zoster, but in other allied pathological skin processes, with prospects of success.

I desire to express my gratitude to Doctor A. Davidson, consulting dermatologist, Los Angeles General Hospital, for his help and suggestions in the preparation of this paper. Also to Emil E. Bogen of the out-patient department for his valuable aid and selection of the cases of herpes zoster, and for many other kindnesses in connection with this publication.

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DISCUSSION

ERNEST K. STRATTON, M. D. (350 Post Street, San Francisco)—Until the actual cause of herpes zoster is known, the treatment must necessarily be symptomatic and palliative. I believe that the local treatment should be as simple as possible, opening the larger vesicles and applying an aseptic powder in order to favor desiccation. Wet dressings and ointments should be avoided, as they only serve to favor infection, which leads to ulceration and scar formation. Jacobson's experience with the red light therapy is very interesting and, in view of his brilliant results, we should bear in mind this means of therapy in handling any stubborn or complicated case of herpes zoster. Butler found that the quantity of energy which could be absorbed by the skin was much greater with the visible red ray, which has a wave length of 7000 Angstrom units, than with the invisible, explaining the difference in absorptions to the special faculty which the coloring matter of the blood possesses for absorbing luminous radiations; consequently the heat reaching the deeper structures by conduction is much more intense in the case of luminous irradiations.

FRED C. NICHOLS, M. D. (1136 West Sixth Street, Los Angeles)—It is interesting to note the good response that the doctor has experienced in the use of the red ray. Herpes zoster is generally conceded to be an infectious process, more or less self-limited in its course, and anything that can be done to relieve the patient should be welcomed with both arms. The simple cases where there is no secondary infection we have found to respond very kindly to paraffin dressings, as suggested by Howard Fox. The pain is almost instantly relieved and envolution takes place in a very few days. The cases which carry a secondary infection to any great extent do not respond so kindly to the paraffin applications. The galvanic current, applied two or three times daily along with soothing protective dressings, usually affords great relief. In the severe type of cases, as cited by Jacobson, the therapy has been especially unsatisfactory, and his suggestions as to the use of the red light should be given the highest consideration.

WILLARD J. STONE, M. D. (Security Building, Pasadena)—I have always regarded herpes zoster as a cutaneous trophic manifestation of a neuritis involving the larger or smaller nerves supplying the area involved. The lesions commonly become inflammatory because of the lowered tissue resistance and the presence always in the hair follicles and sweat ducts of the staphylococcus albus. The surmise that the red rays of the spectrum are desiccating and soothing in character, as opposed to the hyperemic and stimulating effects of the ultra-violet ray, seems borne out by the results secured by Jacobson. The method employed by him is decidedly worthy of further trial.

HARRY E. ALDERSON, M. D. (490 Post Street, San Francisco)—Jacobson has presented a subject that is becoming more important with our increasing knowledge of photo-sensitiveness of the skin. Histopathological studies now under way may produce valuable information on this subject. There is so much in the literature promoted by commercial concerns interested in the sale of various kinds of lights, that soon we may have all the colors of the rainbow represented. But the red light and the ultra-violet rays have been proven to have definite effects on the skin. So a paper of this sort is worthy of our serious consideration.

I have had no personal experience with the red light, so the report of these cases interests me very much. Records of a larger number, of course, would be most desirable. These few experiences, however, are suggestive. The light seems to have its main effect on the skin lesions in the direction of preventing or clearing up secondary infections. This same object can be accomplished by judicious applications of carbon tetrachloride C. P., followed by a protective lotion containing a powder in suspension. Oily preparations are apt to make the local condition worse. At Stanford recently we have been giving suberythema doses of the x-ray with good effect, particularly in ameliorating the pain that accompanies and follows zoster. The local application of the galvanic current in some cases will have a very good effect on the neuritis.

By our local treatment we should endeavor to dry, keep sterile, and protect the skin lesions. If the red light will do the former, which seems possible, protection may be obtained by using a lime water lotion containing 1 per cent phenol and 10 per cent zinc oxide.

DOCTOR JACOBSON (closing) — I do not know of anything that I might add to the discussion, except to express my appreciation to the discussants for the fair attitude that they have shown in commenting upon the subject matter presented. Of course, it would be unreasonable to expect earnest scientific workers to enthusiastically accept a new therapeutic agent (or shall I say an old neglected remedy) unconditionally and without reservations.

Indeed, I am fully aware that the most that could be expected, in view of the small series of cases herewith reported, would be to stimulate interest in this subject matter to a more thorough and comprehensive study on a larger scale than heretofore. If I have succeeded in accomplishing that much through this paper, I shall indeed feel amply compensated.

By diagnosis we mean a thorough knowledge of the human being that we study. Diagnosis is, therefore, an ideal which we attempt to approach, the acquisition of complete knowledge regarding any living organism being beyond our powers. More particularly, in medical diagnosis we strive to ascertain in how far a given human being is healthy or ill and the reasons therefor, by which in turn we mean in how far he is (as a whole and in each of his parts) capable or incapable of making adequate responses to the physical and psychical influences of the environment in which he lives, and why. Adequacy of responsivity indicates health, whereas inadequacy of responsivity indicates disease or anomaly. Health and disease are conditioned; it is the task of diagnosis to attempt to determine the conditioning factors in given instances.—L. F. Barker (New York Journal Medicine).

In spite of progress in certain school districts, the problem facing school administrators today is to find effective means of removing the handicap of defective vision of one-eighth of the 24,000,000 school children.

This is important, not only to *secure greater efficiency in acquiring an education, but to conserve vision for greater usefulness in adult life and in old age.*—National Committee for the Prevention of Blindness.

INTESTINAL PROTOZOA IN GENERAL PRACTICE

By ALFRED C. REED, M. D., *San Francisco*

Three general groups of protozoa are seen by the practicing physician. These are the ciliates, the flagellates, and the amebas.

It is hard to believe that any of these organisms can live and multiply in the human host, without the possibility of their parasite-host balance being at times disturbed and symptoms resulting.

Diagnosis rests on one fact alone, the competent observation of active or cyst forms in the stools. I do not believe that any symptom or syndrome is pathognomonic, and when we recall the possible methods of symptom production, it seems that a pathognomonic syndrome could not possibly occur.

In the case of all the amebas we are having good results with a treatment consisting essentially of emetin and neosalvarsan.

Emetin is a dangerous and powerful drug, in its action often producing mild toxic symptoms.

There is a similarity in symptoms between emetin poisoning and some forms of beriberi, in the presence of peripheral neuritis, weakness, weak heart, lowered blood pressure, and edema. The pharmacology of emetin needs more investigation.

DISCUSSION *by Otto Barkan, San Francisco; Leonard W. Ely, San Francisco; Harry A. Wyckoff, San Francisco; John V. Barrow, Los Angeles; Clarence G. Toland, Los Angeles; Edward F. Stadtherr, San Francisco.*

I KNOW from experience that many physicians, especially those doing general practice, consider the subject of intestinal protozoa, not only foreign to them and their work, but secretly feel that it is remarkably dry and uninteresting. To these men this paper is directed, in the hope that avoidance of technical handling and emphasis on clinical values may develop an appreciation of this decidedly new line of medical endeavor. Not that parasitology and the intestinal protozoa are in any sense a new field medically, but rather that the present decade is demonstrating a new clinical usefulness going hand in hand with increasing knowledge in these lines.

WHAT ARE THE INTESTINAL PROTOZOA

It is probable that shortly after man began his evolutionary journey his intestinal tract became the habitat of various protozoa. The protozoa have accommodated themselves handily to the changing food habits and customs of man, and have now apparently arrived at a stage where they have certain striking physiological differences from similar organisms which have not acclimated themselves through these many generations in the intestine of man. We find, therefore, that in general the intestinal protozoa of man cannot be cultivated or grown in other animals, and that laboratory culture also in most cases is difficult or impossible. The few exceptions to this formulation are striking proofs of the rule. The dysenteric ameba, for instance, can be introduced into kittens and into certain monkeys, but it does not find a congenial host or a permanent home, and either kills its host in short order or itself disappears.

Not only have these organisms accustomed themselves for many centuries to life in man, but they have developed an independence of action and completeness of life which are ordinarily not associated with animals of their primitive and rather simple construction. It is misleading to call them "protozoa," meaning thereby simply single-celled animals. It is biologically correct, but clinically undesirable. We can better assume them to be independent, fully developed organisms which have not been subdivided into more than one cell. We can then appreciate their ability to carry on all the functions of life and their possibilities as producers of disease. They are unit organisms which cannot even be counted purely as parasites. Since their individual life, their reproduction and extension to new hosts is best carried on when they do not kill the host in which they live, we must recognize that they thrive best when they do the least damage to their host. This proposition is the basis of our present understanding of the relation of entozoa to host, a subject which will be developed a little later.

VARIETIES SEEN CLINICALLY

Three general groups of protozoa are seen by the practicing physician. These are the ciliates, the flagellates, and the amebas.

Ciliates—Only one member of this group deserves notice at present, and that is the balantidium, the largest of the intestinal protozoa and easily identified by its hairy or ciliary coating of fine hairs by whose wave-like motion the organism moves rapidly about.

The native habitat of balantidium seems to be in the pig, and its human incidence is related to some association between pigs and man. Monkeys have been parasitized. Balantidium has a similarity clinically to entameba histolytica, in that both invade the mucosa and submucosa of the large intestine and may produce no symptoms during long periods of time. However, the ulcerations at any time may result in a true dysentery and the parasite is always a dangerous guest to have on the premises. We are not sure whether it always invades the tissues of its human host or whether at times it lives only on the intestinal contents. It is known that they may invade the intestinal wall and progress as far as the blood and lymph vessels, and even the lymph glands in the near vicinity. There is no inherent reason, therefore, why they should not be carried to any part of the body. Treatment of balantidium infection is most unsatisfactory and difficult, and requires the use of a variety of medicaments by mouth and local irrigation, as no specific is known.

FLAGELLATES

1. *Giardia intestinalis,* earlier known as lamblia. This is a small organism having four pairs of flagella or tails, actively motile and living in the upper small intestine, bile tract, and in the stomach when acidity is low. Because of its high location in the intestinal tube, its cysts are more apt to be seen in the stools than are the active forms. It has a sucking disc, by means of which it is attached to the mucosa, and it can penetrate gland ducts. A deep point of infection in bile tract or intestinal wall may often be the source of reinfection or more extended infection of the small intestine. It is transferred to new hosts by carriage of

cysts, probably chiefly through contaminated food and drink. While it is perhaps more widely distributed in the tropics, it is found generally throughout the earth, and is frequently seen in California and the United States. It has been suggested that a higher incidence in children may mean that it is a self-limited disease, but the evidence is not yet clear. The symptoms usually recognized in its presence are of a diarrheal nature, but certain cases simulate duodenal ulcer with remarkable fidelity. Symptomatology beyond this will be discussed later.

2. *Chilomastix.* This is the second flagellate, in point of clinical importance. Much has been written as to its pathogenicity, and this point will be discussed a little later. The organism lives in the lower small intestine, and probably to some extent in the upper colon. It is characterized by lemon-shaped, glycogen-containing cysts, and the active forms have three anterior flagella.

3. *Trichomonas.* Many organisms of this group have been described and in general they are less common and perhaps less important. They have four or five flagella and live chiefly in the colon. They are frequently found associated with phagedenic lesions of various parts of the body. We have recently had under observation two cases of vaginal and vulval inflammation, in which trichomonads swarmed in huge numbers. In one of these patients there was also a stomatitis and ulcerative angina of the fauces, in which these organisms were likewise abundant. Their pathogenic relation to such lesions is very uncertain.

AMEBAS

1. *Entamoeba coli.* This is a frequent parasite, in our experience, and is often associated with the more dangerous E. histolytica. It is characterized by its cysts containing eight or more nuclei, and having a typical structure. The fact that many patients harboring this parasite have been known to suffer from colonic symptoms has been explained by Kofoid on the basis of a subdivision of this group, which he calls the councilmania lafleurii. This latter ameba he describes as having characteristic biologic and morphologic differences from the true E. coli. We are classifiying this form as E. coli, of the councilmania type. Its positive acceptance as a separate species must await further confirmation and independent description. Its chief clinical importance lies in the fact that it emphasizes the probability of positive pathogenic properties in the E. coli group of amebas.

2. A group of small amebas which are of minor importance and whose presence should always stimulate the search for histolytica or coli. The chief of these are *E. nana* and *iodamoeba butschlii.*

3. *E. histolytica.* This is the most important of the group, and needs no extended introduction. It has a small cyst with not more than four nuclei, of a fairly characteristic structure. Under ordinary conditions cysts only are seen in the stools, as the active forms represent a biological accident, since they appear only in diarrheic or dysenteric circumstances. These amebas live in undermining ulcers of the large bowel, in which they are distributed around the relatively healthy periphery. Under conditions poorly understood, some of the amebas migrate toward the lumen of the intestine and assume the rounded-up or pre-encysted forms, which at times are recognized in the stool. The cyst is the only form in which the ameba can be transferred to a new host, as the active forms quickly perish outside the human body or are destroyed in the stomach if ingested. Human invasion is accomplished solely through the cysts. It follows that diarrhea or any other condition in the bowel which leads to extrusion of active forms is an unfortunate and fatal accident for the amebas. This gives us the clue to the real relation between host and parasite. The amebic optimum is achieved when the least damage is done to the host beyond furnishing a safe dwelling place for the parasite. A biologic balance between host and ameba is, therefore, to the advantage of both, and this status was formerly and improperly known as a "carrier stage." It is evident that the term "amebiasis" is strictly correct, and that diarrhea or dysentery appears as a symptom as inimical to the ameba as it is to the human host. As we leave hot climates, we find that these symptoms become much less prevalent, and in California and probably in all temperate climates amebiasis exists with a minimum of diarrhea or dysentery. Under these conditions, I have used the term "non-dysenteric amebiasis" to express what might be considered the normal or best adaptation between host and parasite. Lacking dysentery, the infection does not, however, lack symptoms, and we find a considerable list of abnormalities which may be noted in patients harboring amebas, often with constipation as the outstanding symptom and often with no history whatever of dysentery and sometimes with no history of diarrhea.

The term "vegetative ameba" is also unfortunate and untenable in our present knowledge of this parasite. The ameba is either in an active, motile form, or else in the biologic resting stage called a cyst. Cysts are only produced, so far as we know, in locations where they have some reasonable chance of reaching the external world and there invading new human hosts. We do not, therefore, find cysts in hepatic lesions or amebic abscesses elsewhere in the body.

Since more is known of the E. histolytica than of the other intestinal protozoa, it is worth recounting that transfer from man to man is largely favored by infected water being used to wash vegetables or fruits which are eaten raw, and in the second place by the medium of flies. Flies ingest amebic cysts and may pass them again within a very few minutes in their fecal droppings. The cysts may remain viable for days at least, if they remain moist. They soon perish with drying. Dr. H. R. Oliver has called particular attention to the importance of hand-to-mouth infection, especially by cooks, as has occurred in the army. This is a matter in epidemiology, requiring careful attention, and it would seem that food handlers should be investigated to insure their freedom from intestinal protozoa.

INCIDENCE

The intestinal protozoa, as a class, are of frequent occurrence in California, and are probably widely and somewhat uniformly distributed over the inhabited globe, tending to increase in numbers with

nearness to the tropics. The idea that they are tropical parasites alone is disproved by the ease and frequency with which they are demonstrated in almost any class of patients.

SYMPTOMATOLOGY

As has been intimated, evidences of colitis tend to decrease as cold climate increases. In general, protozoal symptoms can be divided into those arising from direct irritation of the intestine and appear as diarrhea and dysentery, and in the second place all the heterogeneous group of phenomena which in some other way are related to the presence of these parasites. This second group can be further classified as follows: (a) Symptoms produced by reflex irritation, as we see in the case of gastric symptoms secondary to an inflamed appendix; (b) symptoms due to absorption of possible protozoal proteins or toxins, not an inconsiderable item when we recall the billions of organisms which go to make up a giardia infection, for instance; and (c) symptoms resulting from the absorption of parenteral proteins from the intestine as a result of protozoal ulcerations or of protozoal disturbances of digestion. It is hard to believe that any of these organisms can live and multiply in the human host without the possibility of their parasite-host balance being at times disturbed and symptoms resulting. With such a classification as we have presented, one can appreciate that symptoms are going to be diverse, remote, numerous, and often bizarre. We are constantly impressed by the neurotic and neurologic symptoms seen in these patients. Many gastro-intestinal lesions are closely simulated, as, for instance, cholecystitis, appendicitis, duodenal ulcer, and colonic cancer. To repeat from a former summarization of my own: "Almost any variety and degree of neurasthenia, physical depression, constipation, loss of weight, anemia, digestive troubles, vague aches and pains, and indefinite ill-health may be associated with amebiasis and disappear when the ameba is eliminated." I am coming more and more to think that this statement is true for intestinal protozoa in general.

PATHOGENICITY

Increasing experience with protozoa clinically, makes one doubt if they ever infest man without increasing the health hazards of the host. This is not to say that they are invariably pathogenic. It is rather to say that we can never be sure they are harmless, and in their presence the host runs a greater risk of ill-health than if free from them. Remembering their extremely frequent occurrence in California, it is safe to conclude that every patient with gastro-intestinal symptoms of any sort should be adequately examined for intestinal protozoa, and that every patient in whom the diagnosis is obscure should be examined for protozoa. Moreover, the presence of one parasite of this group should invariably stimulate search for other members of the group, as multiple infections are frequently seen.

DIAGNOSIS

Diagnosis rests on one fact alone—the competent observation of active or cyst forms in the stools. I do not believe that any symptom or syndrome is pathognomonic, and when we recall the possible methods of symptom production, it seems that a pathognomonic syndrome could not possibly occur.

AMEBIASIS—E. HISTOLYTICA

Of all the intestinal protozoal infections, amebiasis is the best known and the most dangerous. Emphatically, it can be cured, as is proved by the results of many physicians. It does not get well alone, and is not self-limited. The only proved portal of entry into the human body is through the intestinal tract, and therefore amebic colitis always precedes any other appearance. Amebic colitis, of course, may be so slight as to consist only of a few small ulcerations which produce no local disturbance and which allow the parasites to live in balance with the host, as has been described above.

E. histolytica may cause colonic granulomata, may invade the gall-bladder and appendix, and be responsible for hepatitis and abscesses in liver, lung, brain, and elsewhere. It seems doubtful, on the evidence so far available, that the urinary tract or bronchi can be sites of infection. The relation of amebic infection to certain resistant forms of iritis is of special interest since the reports of Lloyd Mills. I have treated one case, in conjunction with Otto Barkan, where marked improvement in the iritis followed removal of E. coli. In regard to arthritis, our position is the same as previously stated. The non-bacterial type of chronic hypertrophic arthritis could logically be the result of protozoal action, the mechanism being one of the four ways described above in which protozoa may conceivably produce symptoms and pathology. Certain of our cases are explainable on no other basis. Finally, there is the probability that a phagedenic skin lesion may be caused by amebas, especially in the vicinity of a discharging amebic sinus.

TREATMENT

In the case of all the amebas we have good results with a treatment consisting essentially of emetin and neosalvarsan. Seven to ten doses of emetin hydrochloride are given hypodermically, one grain each day. Three doses of neosalvarsan are given at weekly intervals. Either bismuth emetiniodide, two or three grains daily to a total of thirty grains by mouth, or two additional weeks of decreasing hypodermic doses of emetin follow. This is improved by keeping the patient in bed in the presence of diarrheic symptoms and restricting the diet. We are now estimating the effects of acid or alkaline type of diet, in the belief that the alkalinity of the intestinal tract has a definite influence on the action of emetin. This course will cure the great majority of cases of amebic infections of any variety. A second course should follow if stool examinations show the presence of cysts within three months of termination of treatment. Cases not cured by three such courses usually require removal of appendix or gall-bladder, or both. A very few cases are still resistant, due to some deep-seated and inaccessible focus of infection, and these rare cases alone should be considered incurable. More recently hovarsol has been used effectively against this and other intestinal protozoa. We will report on this later.

The same regime will eliminate many of the other

protozoa. We have cases of giardia cured by this means. We have also cured giardia infection by the use of neosalvarsan and of mercurochrome through the duodenal tube. There is no established criterion of cure in non-amebic protozoal infections as to the length of time during which cysts are absent before cure can be held certain. It seems probable, however, that five months' freedom from giardia on adequate examination means cure, and that a later appearance of the parasites can safely be laid to reinfection.

Emetin is a dangerous and powerful drug in its action, often producing mild toxic symptoms. These, in our experience, have invariably disappeared with discontinuance of the drug in a few weeks of time. There is a similarity in symptom between emetin poisoning and some forms of beriberi, in the presence of peripheral neuritis, weakness, weak heart, lowered blood pressure and edema. The pharmacology of emetin needs more investigation.

This paper is based on the collective work of my associates, Harry A. Wyckoff, James H. Hall, and Mr. W. O. French.

380 Post Street.

DISCUSSION

Otto Barkan, M.D. (516 Sutter Street, San Francisco)—The modern conception of non-dysenteric amebiasis promises to elucidate various problems of ocular inflammation. In spite of the relatively satisfactory knowledge of the etiology of iritis, ophthalmologists continue to meet with certain intractable cases whose cause remains unknown.

In 1923 (Archives of Ophthalmology, Vol. 388, No. 6, p. 525), Lloyd Mills of Los Angeles reported four cases of intractable iritis, all giving characteristic histories of non-dysenteric amebic infection of the intestine, all showing entameba dysenteriae in their constipated stools. Cure resulted in two of these cases with the use of ipecac preparations as the sole addition to their local treatment. Treatment in the other two cases was not yet sufficiently advanced to allow conclusive judgment.

A few cases of iritis have, in previous years, been observed in acute dysentery, but to my knowledge Dr. Mills is the first to have observed the causal relation between iritis and the non-dysenteric type of amebiasis.

Since my attention was called to this association by Dr. Mills, I have observed another similar case:

Case Report—Mrs. R. C. Aged 41 years. Native of Alabama. Lived in the vicinity of San Francisco for twenty-four years. Recurrent attacks of iritis in both eyes since 21 years, as result of which she had almost total posterior synechae and pupillary membrane of both eyes; threatening secondary glaucoma; vision reduced to counting fingers at four feet. She had, in the past, undergone several thorough physical examinations and been examined by several specialists, without avail. Teeth, tonsils, etc., extracted. In 1923 I performed iridectomy in both eyes, with relief of localized seclusion and some improvement of vision. Patient continued to suffer from recurrences of irritation and exudate into the vitreous, at which times her vision was further reduced. She had not been able to read or write for some years. Nothing remarkable in the history except chronic constipation. Patient was referred to Dr. A. C. Reed, who found entamebae coli in large numbers in the stools. Treatment with emetin resulted in clearing of the vitreous and absence of iritic recurrences since then, one year to date. Vision has improved to: Right eye, 4/10; left eye, 3/10. The lady is now president of a woman's club in her home town, and is able to attend to her correspondence. Unfortunately, the old scar tissue over the pupil does not permit of further improvement of vision. Patient's remaining complaint is that, following the course of emetin, she increased forty pounds in weight. It is interesting to note that the above relation is not an exceptional one, but may be regarded as analogous to oculo-articular syndrome in bacterial disease of other mucous membranes—for instance, the Neisser infection of the urinary tract.

Ophthalmology is much indebted to Dr. A. C. Reed and the other workers in the field of non-dysenteric amebiasis for the valuable suggestion which has resulted in the discovery of the cause of a most distressing type of chronic iritis.

Leonard W. Ely, M. D. (Stanford University Hospital, San Francisco)—Dr. Reed is to be congratulated upon his terse and very practical presentation of a subject which is difficult to digest, as usually set forth. Amebiasis interests me, of course, in its relation to the joints. When we cut up our specimens of arthritis in the laboratory, we find in certain of them—the second great type of chronic arthritis—changes which all our knowledge teaches us are not caused by bacteria nor by trauma. In such circumstances we can take refuge in such vague terms as disturbed metabolism, rheumatic diathesis or the like, or we can simply say, as I have said, that the areas of necrosis, which seem to be at the bottom of the pathological process, must be caused by some living organism, and pursue our search for this organism. Unfortunately, Kofoid's claim, made almost three years ago, for the ameba histolytica has never been confirmed, but I am convinced that some sort of protozoon is responsible for this disease, and our work at the Stanford clinic indicates that it may be one of several. Our method of dealing with patients at the clinic, as soon as the diagnosis of second type arthritis is made with the x-rays, is to institute a search for parasites in the stools, and to close any port of entry from the gastro-intestinal canal to the system, and I am more confirmed than ever in the opinion that this port of entry in the great majority of cases is through the diseased bone at the roots of dead teeth. I think that the presence of the bone changes is better explained by the invasion of the organisms themselves than by their products. All this is theory, of course, and is not to be regarded as proved until we have found the organisms in the bone marrow. Proceeding on this theory our results have been excellent, and encourage us to continue our treatment in a class of cases which hitherto have been practically hopeless. Our percentage of positive finds has steadily risen in the past two years. Thanks to the skill and interest of Dr. Wyckoff the co-operation between the laboratory and the clinic has been close. The ameba coli has been found more often than any other organism, giardia, chilomastix, and histolytica less frequently; other organisms occasionally. One day in the week is set apart for the administration of neoarsphenamin. When no organisms are found, we give the emetin preparations without the neoarsphenamin.

Harry A. Wyckoff, M. D. (Lane Hospital, San Francisco)—While this paper has numerous excellent features, I wish to direct attention to but two points:

1. The conception of a highly successful adaptation by the parasite to the conditions existing in the body of the host, together with a very narrow specialization as a result.

2. That the maintenance of balance between the life of the parasite and that of the host is the optimum condition for the parasite.

Both appear to be valuable aids toward a better understanding of protozoal infections.

John V. Barrow, M. D. (2007 Wilshire Boulevard, Los Angeles)—This paper is timely and to the point. The only physician who fails to appreciate its importance is the one who has made no study of the subject or does not care to study all the physical conditions of his patients. The incidence of the infections to the pathology produced is far too great to be coincidence.

I do not think Dr. Reed is quite right in his statement that active ameba dysenteriae occurs "only in diarrheic or dysenteric circumstances." Our experience is that they are really hardest to find in some of the most severe dysenteries. In a few cases where the colon was a mass of amebic ulcers, no amebae were found in the stool over a period of three to six weeks preceding death. Postmortem scrapings of the ulcer bases revealed myriads of the organisms.

It is well to remember that in the investigated parts

of our country dysentery occurs in not over 25 or 30 per cent of the cases of amebiasis.

The symptoms are well stated. Even more than the author, I am convinced that any or all protozoa may be or become pathogenic.

The presence of human intestinal protozoa is no greater in California than in other states of the Union. The Middle States show an equally high percentage of cases. I have checked the origin of the infections in several hundred cases. There is usually more than one kind of organism in the same host. To me, the most commonly found organism is the chilomastix. The infection is overwhelming in the majority of the symptomatic neuritides. Since our first case of amebic iritis, Dr. Lloyd Mills and I have treated well over one hundred cases similarly, and with continued gratifying results. These cases, with others, are being carefully observed and studied, to be incorporated in a later combined report.

Whether or not the intestinal protozoa concern the etiology of arthritis of Ely's Type 2, I believe I can safely state that no other form of medical treatment does so much for these patients. This treatment should certainly be combined with the recognized orthopedic management to secure best results.

Dr. Reed has not mentioned the differential blood picture in these cases.

There seems to be a general depression of the leucocytes in protozoal cases. This depression seems to affect the polynuclear cells most. A differential count of polys and monos will often disclose a protozoal infection. The picture is often such as: Wbc. 5900, polys. 51 per cent, monos. 49 per cent. This leucocytic depression serves a valuable aid in ruptured viscera, as the appendix. The count rises as the pyogenic organisms invade.

I am sure the great majority of these cases can be cured. Dr. Reed's treatment is fine, but it stops too soon. No case of intestinal protozoa should be pronounced cured in from three to six months, any more than we would give the same judgment in a case of lues or tuberculosis. The treatment should be outlined under three heads, viz., persistence; more persistence; *persistence.*

CLARENCE G. TOLAND, M. D. (Pacific Mutual Building, Los Angeles)—I am not capable of discussing a paper of this type intelligently, as I am not an internist nor do I understand all the pathology produced by intestinal parasites.

However, in my surgical practice, I am very often impressed with the fact that many patients sent to me for operation for some supposed obscure surgical condition (usually a combined diagnosis of chronic cholecystitis and chronic appendicitis) have been studied from the standpoint of present history and gastro-intestinal x-ray, but practically no attention has been paid to the possibility that these patients may be suffering from a parasitic colitis.

I feel too much attention cannot be paid to stool examinations in all cases of doubtful surgical pathology in the abdomen.

All of us pay too little attention to the past history of all of our patients; also too little thought is given to the locality of our patient's residence.

When we are asked to operate upon a patient complaining of pain, for instance, in the right inferior fossa or at the right costal margin regions of the abdomen, whose symptoms have been of a chronic, growling type, without a previous history of anything simulating an acute appendicitis, gall-bladder colic, duodenal irritation or renal colic, we must be sure we have surgical pathology, as we are held responsible for the outcome of this case. Also, we subject such a patient to a difficult operation that carries a surgical mortality. Little pathology may be found; at least, not enough to explain the patient's symptoms, as pain, gas, tenderness, weakness, occasional temperature, little diarrhea alternating with constipation, no appetite, and lastly secondary anemia of any degree.

If the stools had been thoroughly studied by a competent man, amebic colitis would probably have been found. Medical treatment would relieve the patient symptomatically, and allow him to work again.

I do not feel that I have discussed Doctor Reed's paper in the manner that it justifies, but he and Doctor Barrow show us many times that a great many needless operations are done upon patients of the type under discussion.

The surgeon is needed, so is the internist, but any man of these who is of the monorail type should be controlled in some way, as we might be able to prevent many needless operations; or we might, on the other hand, help the internist to not go too far in his belief of the damage that intestinal protozoa may produce.

EDWARD F. STADTHERR, M. D. (Flood Building, San Francisco)—Doctor Reed's paper is very interesting and pregnant with valuable knowledge, especially his discussion of the much-condemned neurasthenic. For the last three years I have been observing the so-called neurasthenic harboring intestinal protozoa before and after treatment by Dr. Reed at the Stanford clinics. It is gratifying to note that about 80 per cent were discharged as well after they were rid of the intestinal protozoa.

Instead of having the usual intestinal complaint, I found that most of them were sent to the neuropsychiatric clinic on account of nervousness, insomnia, nocturia, general fatigue, headaches, and loss in weight. Out of twenty patients, only three complained of stomach trouble, five of constipation, and one of diarrhea. Other complaints were vertigo, poor vision, muscular twitching, flea sensation, night sweats, dreams, palpitation, cold extremities, hot flashes, etc.

The blood usually revealed a leukopenia, eosinophilia, plus a low hemoglobin.

In conclusion I want to add that, before indexing a patient as a "neuro" or before operating on patients with vague intestinal symptoms, be sure intestinal protozoa are not at the bottom of it.

DOCTOR REED (closing)—The subject has been covered from many important standpoints. Unknown factors of pathogenicity and control make divergence of opinion inevitable and desirable. We need to record and compare. It is indeed disheartening to read in the editorial pages of the journal of the American Medical Association (February 28, 1925) the opinion that there can be healthy carriers of entameba histolytica. Healthy they cannot be with such a parasite. Acquaintance with the influence on these carriers, so called, of meteorological conditions, such as humidity, warmth and low barometer, tends to dissipate once for all any idea that this parasite can ever be safely or harmlessly harbored in the human body.

"A hospital connected with one of our leading Eastern medical schools," says Edgar James Swift (Scribner's magazine), "has a large tuning-fork which has marvelous curative properties. Now the patients to whom it is applied do not know that it is an ordinary tuning-fork. If they knew this it would be useless. But modern civilized man has a curious superstition about the effect of magnets. So patients are told that this big tuning-fork is a 'magnet,' and many afflicted with hysterical paralysis of leg or arm are cured by the application of this mysterious object to the limb which the patient believes is paralyzed. And at other times the mystic power of the unknown, symbolized by the 'magnet,' subdues the unintentional refusal of patients to be cured." "Quackery and Its Psychology," the article from which this is an abstract, is well worth perusal.

An Oregon man was trying to sell a horse. The animal was wind-broken, but sleek. The owner trotted him around for inspection, and, bringing him back to the prospect, he stroked the horse's back and remarked, "Hasn't he a lovely coat?"

The prospect removed his pipe from his mouth and said, as he looked at the heaving flanks of the animal, "Yeah, his coat's all right, but I don't like his pants."

The obligations of a hospital to a community are not merely those established by law. There are higher rules for the regulation of hospitals and these involve moral responsibilities to a community, which include an appreciation of some of the finer things in life, the courtesies, the humanities and the spiritualities of human contact.—Editorial, American Medicine.

THE ANTAGONISTIC FUNCTIONS OF THE UTERUS IN RELATION TO REGIONAL NERVE-BLOCKING

By HARRY THEODORE COOKE, M. D., *Los Angeles*

In any obstetrical condition that can be benefited by desensitization of the protective pain sense and the complete relaxation of the tissues involved, regional nerve blocking is indicated.

In weak anemic patients with low blood pressure, the method is contra-indicated.

DISCUSSION *by M. H. Ross, Los Angeles; Nannie C. Dunsmoor, Los Angeles; Nahum Kavinoky, Los Angeles.*

THE UTERUS, AS A WHOLE, is a muscular sac, having the functions of a dilatation and contraction. Its function in the body of the human female is to be the receptacle whereby the phenomenon of menstruation is performed each month, and when this is not the case its function also is to be the receptacle of the products of conception, to furnish through its walls nutrition to them, and to dilate and stretch as these products increase in size, and later to have the function to contract and to expel these contents, and then to return to its original form and size, and to repeat this process several times if necessary in the life of the individual. The uterus then is a very wonderful muscular sac, having functions quite different from other muscles in the body, partly due to its shape and attachments; but, like these other muscles, having the ability to contract forcibly and relax, with this difference—that it relaxes first and then contracts forcibly afterward.

ITS ANTAGONISTIC FUNCTIONS — Now, while these functions are co-ordinating for a purpose they at the same time are in opposition to each other, just as much so as opposing skeletal muscles. The only time when the uterine musculature is in harmony is when the uterus is empty or inert, and it is contracted in its entirety, and it is functionless or at rest. As soon as it starts to function its antagonism in its component parts is apparent. The uterus should not be considered as a whole, but as an upper part, which would include the upper uterine segment and the fundus, and a lower part, including the lower uterine segment and the cervix.

ITS DOUBLE NERVE SUPPLY — The reason for dividing the uterus into upper and lower parts is because of its nerve supply from two sources, for when (during pregnancy) it begins to function the upper part is dilating to accommodate the increasing size of its contents, while the lower part is strongly contracted to keep the uterus air-tight and later to support the increasing weight. Now, this opposite function is under the control of two systems of nerves. The fundus and upper uterine segment is innervated by involuntary nerves of the sympathetic system with the assistance of its own intrinsic nerve centers in the uterine muscle; and the cervix and lower uterine segment, as well as the rest of the birth canal, is innervated from the cerebrospinal system, which registers sensation in the brain and produces motion or tonic contraction. The sharp line of demarcation between these two systems in the uterine musculature, between the upper and lower uterine segments, I have concluded is at Bandl's ring or the point of attachment of the broad ligament to the brim of the pelvis. Above this point there is only involuntary nerve action, but no protective pain sense nor response to injury, while below this point sensation and pain sense are present.

THE BIRTH CANAL is that part of the female tissues through which the child must pass when expelled by the uterus. Now, this entire birth canal, including the lower uterine segment, the cervix, the vagina, the muscles of the floor of the pelvis, the vulva, and the perineum, are all sensory and motor, and are in tonic contraction and under the control of the cerebrospinal system.

LABOR is the use of the mechanism whereby the child is expelled from the uterus during its passage through the birth canal, and it is well named, for it is usually a hard thing to accomplish, and it is often marked by much pain and distress, and frequently by injury.

ITS SIGNIFICANCE—It signifies the completion of the growth of the child and the need for its expulsion, to start it on its way as an independent human being, and to obtain its oxygen and nutrition by a method other than the mother's circulation.

It signifies also that the "powers of labor" (which are the contracting fundus, the weight of the child, and the co-ordinate use of the abdominal muscles) are about to come into action.

THE CAUSE OF CHILDBIRTH PAIN—Now, having considered the "powers of labor" in their expulsive efforts to force the child out, and knowing that *contractions* of the *upper segment* are involuntary, therefore painless, *as one labor factor,* that the influence of the *child* as the *second labor factor* is only that of *gravity* from *weight,* and the *use* of the *abdominal muscles* as the *third labor factor,* is to aid in this expulsion, there is no pain in their use at this time, any more than the use of any muscle in the body. Where does the pain come from? Only from the tissues of the entire birth canal which are now forced to stretch and relax sufficiently to let the child pass, and, of course, this protective pain sense is registered in the brain and this stimulation results in more muscle tone in the tissues of the birth canal, causing a vicious cycle, thus further delaying delivery, until the woman is all worn out and she finally no longer can put enough muscle tone in these tissues to prevent relaxation, and under these harrowing conditions the child is finally born. And this is termed "a normal delivery." This reminds one of the days before anesthesia. In those days when a surgeon wished to cut off a man's leg enough strong men were called in to hold him and sit on him if there was room enough to keep him still until the surgeon was through. This was the *natural method.*

Now all this distress is caused by our protective pain sense in response to injury, and while at times it is well to "let nature take its course," there are times when this becomes barbaric, and this pain must be controlled and obliterated. This is the time when a woman turns to her physician for relief and comfort.

NERVE-BLOCKING — There are various chemical substances, gases, solutions, which can be swallowed,

inhaled or used in an enema, or painted on the skin or mucous membrane, or injected into the skin or muscle that will take away pain. We decide and select the ones most satisfactory and best suited to our purpose. The dentists block off nerve trunks to make painless their work on our teeth. The pain of childbirth can also be blocked off so that there will be no protective pain sense and contraction in the birth canal and consciousness still be retained. If these tissues are blocked off they cannot register pain, nor can they contract while this nerve block lasts. When there is no pain and the tissues are relaxed and can be stretched, we then can have "a painless conscious childbirth," provided that in normal spontaneous deliveries we do not interfere with the action of the forces of expulsion.

If the pelvic measurements are abnormal enough to make it difficult for the child to pass through the bony pelvis, manual, mechanical or instrumental delivery is required, in which case regional nerve-blocking is satisfactory. If the size and form of the bony pelvis in relation to the child is so out of proportion as to require a Caesarean section as the only means of delivering the child, the problem resolves itself into an abdominal operation, with no reference to the stretching or dilation of the birth canal, as these tissues no longer enter into our problem.

The form of regional nerve-blocking of choice is the desensitization and relaxation produced by the injection of novocain into the arachnoid space surrounding the spinal cord. This can be so controlled as to meet satisfactorily the requirements of all the various forms of deliveries.

SUMMARY

1. The uterus, as a whole, is *a muscular sac,* having the co-ordinate but opposite functions of contraction and dilation in its component parts.

2. In pregnancy its upper part relaxes and enlarges, while the lower part is in tonic contraction, *these functions being antagonistic.* In childbirth these functions are reversed, and again are antagonistic, and again co-ordinate at first to hold the child, now to expel it, and this is accomplished by:

3. *Double Nerve Supply*—The upper uterine segment being from the sympathetic or involuntary nervous system, and the lower uterine segment being from the cerebrospinal system, which is sensory and motor and registers protective pain sense and governs tonic muscular contraction of skeletal muscles.

4. *The birth canal* is that part of the female tissues through which the child must pass when expelled by the uterus. All the tissues composing it are under the control of the cerebrospinal system of nerves, and they register in the brain protective pain sense which causes tonic contraction of these tissues.

5. Labor is represented as the powers of the body, able to force the child through the normal pelvis and birth canal.

6. *It signifies* that the child is to be forced out to obtain its further growth and nutrition by methods other than the mother's circulation.

7. *Childbirth pain* comes from the stretching of the contracted tissues of the birth canal as the child passes through them. The presenting part starts to stretch to the limit these tissues, this stretching causes pain, this results in protective muscular contraction to ease this pain, which delays delivery of the child.

8. *Its relation to nerve-blocking* of this vicious cycle is that the blocking inhibits the brain from registering pain and the tissues are inert and relaxed and as functionless as a telephone receiver would be with its wire cut, and would remain so until again connected, which in this case is when this novocain gradually loses its inhibitory effect. During this blocking off of pain the obstetrician now can easily stretch or dilate these tissues after the method of Potter, to facilitate the passage of the child and prevent trauma, which results in a "painless conscious childbirth."

If the child is not too large and the tissues permit of normal stretching, the birth can be spontaneous. The patient being fully conscious, she can aid in her own painless delivery by bearing down with her abdominal muscles as directed, as she no longer has the sensation that the more she bears down the more it hurts. This relationship has been interfered with by our blocking. If the pelvis or child are at all abnormal, then a manual or an instrumental or a surgical delivery is indicated, but even then the delivery will be "a painless conscious childbirth," as these various conditions are amply taken care of under this "regional nerve-blocking."

In a paper on "Spinal Analgesia in Obstetrics, Including Caesarean Section" (American Journal of Surgery, October, 1923), I discussed the technic in detail, and case reports were noted.

Co-ordination of opposite forces for a specific purpose in the growth of the child, and again co-ordination of reversed opposite forces for the child's expulsion, is essential to the activities of the uterus under varying conditions.

In considering the functions of the body by regions, and interfering for a time with one, any one or all of these regional activities, by regional nerve-blocking, may be a new viewpoint to some, but the ability to do these things has long ago passed the experimental stage and they are definite, safe and pleasant to use. The only way that we can take advantage of these peculiar and antagonistic functions of the uterus, as I have endeavored to explain, is by selective nerve-blocking.

The anesthetist can take advantage of these conditions by interfering with one function and not the other, and thus aid delivery. The obstetrician can then work under the favorable conditions of no protective pain sense and complete relaxation. That is why this method is the one of my selection.

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DISCUSSION

M. H. Ross, M. D. (Pacific Mutual Building, Los Angeles)—In the selected cases in which I have used the method discussed in this paper, I report 100 per cent satisfaction.

These patients were all of primary uterine inertia, in which it was deemed necessary to assist nature at the birth of the baby. Before I used the method my greatest concern was (1) would I get sufficient relaxation of the lower uterine segment, and (2) if I did, how would the upper segment react in regard to hemorrhage. Both of these fears have passed since I have used the nerve-blocking method. The most notable feature in its use is

the complete block of shock. None of my patients suffered any shock and ate a full meal on return from the delivery room, and continued daily to do so.

None of my patients had a headache following delivery. Quite a noticeable fact, when we remember those following intra-spinal injections of a few years ago. I think this due to the position of the patient, having the head elevated during and following delivery.

Atropine was used just prior to the spinal injection to balance the blood pressure, which otherwise might have a tendency to fall.

It is quite a satisfaction to have a patient conscious during manipulations and at all times perfectly free from pain. While a few cases prove nothing, still where even a few cases all act the same way with a certain method confidence in it is strengthened. While I would not recommend nerve-blocking as a routine method to be practiced under all conditions, neither would I do a version on all normal cases of labor.

In instances of relative uterine inertia, or in which the lower segment fails to dilate properly and delays labor, I feel we have an aid to nature and a blessing to the worn-out, nervous or hysterical mother.

NANNIE C. DUNSMOOR, M. D. (Pacific Mutual Building, Los Angeles) — In regard to spinal anesthesia in obstetrics, I have delivered eight patients, with Dr. Cooke's assistance as anesthetist. All but one primipara. Three were elective, and five were emergencies. One patient (the multipara) gave a history of post-partum hemorrhages at previous confinements. Under nerve-blocking, the fundus contracted well and she escaped hemorrhage at her last confinement. One patient, 36 years old, wished to escape the pangs of labor. One patient, 17 years old, in a late stage of pulmonary and laryngeal tuberculosis came into labor at eight months. It took twenty minutes after nerve-blocking to dilate the cervix. There were no post-partum complications. She died one month after delivery of tuberculosis and starvation, leaving a healthy baby. The other five patients were slow in dilating the cervix, being in labor from ten to twenty-one hours without results before deciding to have spinal anesthesia. The cervix in each case was dilated manually in from ten to twenty minutes, then forceps were applied.

There were no post-partum rises in temperature, nor other complications.

NAHUM KAVINOKY, M. D. (Brockman Building, Los Angeles)—I believe that the use of spinal anesthesia in obstetrics, so ably advocated by Dr. Cooke in his paper, will find its place as a valuable aid to the obstetrician in many complicated labor cases.

It proved of great assistance to me in a patient with mitral stenosis and marked decompensation (thyrotoxicosis was an additional complicating factor). I was confronted with the necessity of terminating pregnancy three weeks before full term (in a gravida II), and in choosing the method of delivery I considered it of the utmost importance first, to spare the patient the strain of spontaneous labor, second, to avoid the danger of a general anesthetic. I used spinal anesthesia, given by Dr. Cooke.

The most striking feature of the delivery was the ease with which the dilatation of the cervix was accomplished in twenty-five minutes, the delivery by version of a six-pound live baby.

By comparison with previous cases of dilatation of the cervix in labor, I gained the impression that, with spinal anesthesia, the relaxation of the cervical musculature is more complete than under general anesthesia.

DOCTOR COOKE (closing)—Some children delivered by me after spinal anesthesia are now 6½ years of age. I have also used spinal injections for all kinds of operations below the diaphragm. I knew what to expect of its use in obstetrics; and its efficacy has been tested in breech, forceps, and Caesarean section cases. Some of the patients have suffered from primary uterine inertia, eclampsia, double lobar pneumonia, heart and kidney complications, and some of them were delivered from eight to twenty-two days before term, with living babies.

If spinal anesthesia is efficacious in blocking off pain and shock, and securing relaxation under such extreme conditions, why cannot the average woman also have a "painless conscious childbirth."

Of Dr. Ross' four patients, three were delivered by podalic version and one by forceps.

His first patient had primary uterine inertia (three weeks overdue). Was delivered by podalic version in thirty minutes after the injection, the placenta in thirteen minutes more, with patient smiling and conscious, and without pain.

Dr. Dunsmoor's eight patients were all delivered by forceps, the multipara in sixteen minutes from time of injection, conscious but without pain.

Dr. Kavinoky's one patient was delivered by podalic version in twenty-seven minutes twenty-two days before term, on account of heart condition. There is no nerve connection between mother and child, consequently the baby is not affected by this method.

In any obstetrical condition that can be benefited by desensitization of the protective pain sense and the complete relaxation of the tissues involved regional nerve-blocking is indicated.

In weak, anemic patients with low blood pressure, the method is contra-indicated.

Success with regional nerve-blocking requires careful technique and familiarity of all its problems, and it should not be experimented with.

SOME INTERESTING UROLOGICAL CASES IN WOMEN AND CHILDREN *

By WILLIAM E. STEVENS, M. D., *San Francisco*

DISCUSSED *by G. Carl H. McPheeters, Fresno; William H. Brennen, Eureka, Nevada; R. P. Roantree, Elko, Nevada, and Miley B. Wesson, San Francisco.*

IT IS a generally conceded fact that disturbances are much more frequently encountered in the urinary organs of women and female children than in those of the opposite sex. This is to be expected when the difference in physiological functions of the generative organs, the anatomic relationship and the increased sensitiveness of the female bladder to direct and indirect influences are taken into consideration. Frequency of urination is the most common symptom of which women patients complain, and although more often due to urethritis with or without trigonitis, pyelitis, or to an urethral stricture, either at the meatus or in the lumen of the canal, patients are repeatedly seen in whom such simple conditions as a caruncle or an highly acid urine are responsible for much discomfort.

Other cases are encountered which tax to the utmost our diagnostic resources, when anything short of a most thorough investigation by means of all the modern methods at our command will result in an incorrect diagnosis and frequently in disaster to the patient.

A case which I saw recently while in Vienna is both interesting and instructive.

CASE 1—The patient, a woman 50 years of age, complained of a lump in the right side of the abdomen. Examination revealed a somewhat sensitive, slightly movable mass about 10 cm. in length and 5 cm. in breadth, occupying part of the upper and lower right abdominal quadrants. The center of the mass was on a level with the umbilicus. A catheterized specimen of bladder urine contained a number of pus cells. The urologist and his assistant made a positive diagnosis of tumor of the kidney, and did not consider other diagnostic measures necessary. The gynecologist was equally certain that the mass was an ovarian cyst. Operation, however, revealed a retroperitoneal lymphosarcoma. This error would have been avoided by radiography of the kidney, with the patient in the upright position, or by pyelography. The

* Read at 1924 Nevada State Medical Association's Annual Meeting, Bowers Mansion, Nevada.

latter procedure reveals a deformity of the renal pelvis in almost every instance in the presence of tumor of the kidney.

An abnormal degree of mobility of the right kidney is much more frequently encountered in the female than in the male. That this condition may be undeservedly blamed for symptoms with which it has no connection, is illustrated by the following case:

CASE 2—This patient complained at times of pain and tenderness in the upper right abdominal quadrant. These symptoms had recently increased in severity. A freely movable right kidney was found on examination. Cystoscopy and functional kidney tests were negative, and the attacks of pain were considered due to kinking and the resulting obstruction of the ureter following displacement of the former organ. The pain did not disappear after nephropexy, however, and an exploratory operation one month later revealed a carcinoma at the beginning of the transverse colon. The symptoms, which were in all probability due to partial obstruction of the intestine, disappeared following resection. Although the mistake was in a measure excusable in this case, a more careful examination would probably have revealed the intestinal growth.

CASE 3—A woman, 63 years of age, came to the office, complaining of hemorrhage from the vagina, blood in the urine, and frequency of urination. These symptoms were of about ten weeks' duration. Vaginal examination was negative, but a catheterized specimen of bladder urine contained blood, pus, and albumen. Cystoscopy was somewhat unsatisfactory on account of bleeding, but a large mass could apparently be detected on the right lateral wall of the bladder.

Cystography, following the injection of 10 per cent sodium iodide solution, definitely revealed the position, size and infiltrating type of the bladder growth. The right ureter was not involved.

As much of the tumor as possible was destroyed by cauterization and radium needles implanted. Improvement followed the operation, but was of comparatively short duration.

This case is interesting because, notwithstanding the size of the growth, the symptoms were of but ten weeks' duration. It serves to illustrate the value of cystography in bladder tumors, and likewise demonstrates the fact that a patient's statement as to the source of blood is of little value.

CASE 4—This patient complained of frequent and, at times, difficult and painful urination. She also suffered from pain in the suprapubic region. Examination revealed an urethral stricture and a cystocele. A catheterized specimen of bladder urine was chemically and microscopically negative. The symptoms improved after two or three dilatations of the urethra, but did not clear up completely. A second examination of the urine revealed a few pus cells. Cystoscopy and examination for ureteral strictures were negative. Both kidney urines were microscopically and culturally negative.

A third examination of the bladder urine one week later revealed a large number of pus cells, and tubercle bacilli were now found on examination of the stained sediment. The patient was again cystoscoped and urine obtained from both kidneys. The left kidney urine now contained a few pus cells, and the guinea pig inoculated with the urine from this kidney was positive for tuberculosis. This case illustrates the fact that renal tuberculosis is sometimes responsible for bladder symptoms, although the urine is at times chemically and microscopically negative and it emphasizes the importance of repeated examinations of the urine in the presence of symptoms referable to the urinary tract. In my experience there has been less bladder involvement accompanying renal tuberculosis in women and female children than is the case in the opposite sex.

Contrary to general opinion, a stricture in the lumen of the female urethra is by no means uncommon and a congenitally narrow or an acquired contraction of the meatus, in other words, a stricture at this location is frequently encountered.

CASE 5—The wife of a physician had complained of frequent urination, at times accompanied by pain in the suprapubic and lumbar regions, for four years. Examination was negative, except for a tight urethral stricture 1 cm. from the meatus. A filiform followed by a Le Fort metal catheter was passed with some difficulty, and the urethra dilated. Marked improvement followed this procedure. All symptoms disappeared after the second treatment, although dilation of the urethra at intervals was continued for several weeks.

Another patient complained of hematuria, in addition to the above symptoms. Two polypi, as well as a tight stricture, were found in her urethra. Immediate relief followed the destruction of the polyps and treatment of the urethral stricture in the manner outlined in the preceding case.

CASE 6—A female child, 3 years of age, complained of frequent and painful urination. Examination revealed a stricture at the external urethral meatus. The urine contained a few pus cells. Immediate improvement followed the first, and all symptoms disappeared following the third dilatation of the urethra.

CASE 7—This patient complained of a sensation of pressure in the suprapubic region and difficult and interrupted urination periodically for four years. These symptoms had been constant for the previous two months. She was under treatment for tabes, following lues contracted twenty-three years before coming under observation. Examination revealed a stricture at the urethral meatus. The urine flowed very slowly through an urethral catheter inserted into the bladder, and 120 cc. of residual urine were found. This contained a moderate number of pus cells. Cystoscopy revealed some injection of the bladder mucosa, but notwithstanding her tabes, very little trabeculations of the bladder wall. The kidney urines were microscopically and culturally negative. The subjective symptoms improved rapidly, following dilatation of the urethral stricture and irrigation of the bladder, and the patient was most grateful for the relief obtained. Although comparatively infrequent in women, the possibility of tabes as an etiological factor in bladder disturbances must be remembered.

A vesico-vaginal fistula following labor, operation, radium therapy, or external violence is not uncommon, but a fistula following laceration of the posterior wall of the bladder.

CASE 8—A hysterectomy was performed by a well-known surgeon because of a large uterine fibroid. The bladder wall was thin, and with the peritoneum, closely adherent to the tumor mass, which extended upward to the umbilicus. In attempting to separate the bladder wall from the uterus, the base of the former organ was torn. Following removal of the uterus, the tear was closed with a continuous catgut suture. Six days later the patient complained of a slight cough, tenderness along the lower right costal margin anteriorly, and some pain on inspiration at the base of the right lung. Distant breath-sounds and some very fine rales were heard over this area. A diagnosis of pneumonia was made. Two days later the tenderness was more severe, some swelling was apparent and the patient also complained of burning and frequent urination and pain in the right groin, worse on voiding. A catheterized specimen of bladder urine contained a large number of pus cells. Two hundred and forty cc. of residual urine were found. Cystoscopy revealed marked inflammation and edema of the bladder mucosa. The ureteral orifices were not visible. Indigocarmin did not appear on either side within twenty-five minutes after intravenous injection. Operation was advised, but refused by the patient. One week later, her condition becoming gradually worse, consent to operate was finally obtained. Following an oblique right lumbar incision, half a pint of thick, foul-smelling pus was evacuated. No pus was found inside the fatty capsule of the kidney. Some urine escaped through the wound for about six weeks after operation. It was now possible to catheterize the right as well as the left ureter. The right kidney urine contained an occasional pus cell; the left

was microscopically negative. Cultures from both showed colon bacilli. The patient made an excellent recovery after a somewhat prolonged convalescence. The bladder fistula would have closed much earlier if lumbar incision permitting drainage had been allowed by the patient when the diagnosis of extraperitoneal extravasation and infection was first made. Delay in operating upon extraperitoneal lacerations at best retards convalescence and results in intense suffering. Without immediate operation intraperitoneal lacerations are rapidly fatal.

CASE 9—An emaciated female infant, 4 months and 29 days of age, suffered from frequent and painful urination. A catheterized specimen of bladder urine contained a large number of pus cells. Cystoscopy, by means of a small cystoscope, revealed an inflammation of the bladder mucosa, most pronounced at the trigone. The ureteral orifices were large and the adjacent mucosa slightly injected. Both ureters were catheterized to the pelves, and urine obtained for microscopical examination and culture. A 1-1000 solution of silver nitrate was injected before removal of the catheters. The urine from both kidneys contained colon bacilli and a few pus cells. A gain in weight and improvement in the baby's general condition followed the first and two subsequent irrigations of the kidney pelves. The kidney urines were culturally negative following the first treatment.

Twelve days later a slight vaginal discharge was noticed. A catheterized specimen of bladder urine contained numerous pus cells, but the kidney urines were still culturally negative.

This case is interesting because of the prompt response to lavage of the kidney pelves, and because of the age of the patient. It also demonstrates the feasibility of the application of modern methods of diagnosis and treatment in pathological conditions of the urinary tract in infants. I have not been able to find another case recorded in the literature in which so young a patient has been treated by means of irrigation of the renal pelves.

Flood Building.

DISCUSSION

G. CARL H. MCPHEETERS, M. D. (Fresno, California)—In my work with pregnant women I find that more than one-half of all these patients have bacteria and pus cells in the urine at some time in the pregnancy. Some of these do not have any urinary symptoms; most of them do. Relief of their constipation is all that is needed to render the urine clear in many cases. Some require urethral dilatation and then clear up. Others require bladder irrigation, together with diuresis and urinary antiseptics by mouth. Many will not clear up until the kidney pelvis is washed out and better ureteral drainage established on one or both sides. Such care is imperative and of utmost importance in pregnant women, since pyelitis and pyelonephritis are frequent causes of intra-uterine death.

Among female babies and little girls up to puberty, pyelitis is exceedingly common. Almost every such child having infected tonsils and adenoids exhibits pus and bacteria in an alkaline or neutral urine, rarely also in an acid urine. It is our plan to treat these medically for a reasonable time, say one month, and then resort to the urologist who treats the higher urinary tract. It is especially important to cure these conditions in little girls before they reach puberty, since they are to become the mothers of the future generation.

I want to thank Dr. Stevens for a very timely and valuable paper.

WILLIAM H. BRENNEN, M. D. (Eureka, Nevada)—To the general practitioner, the outstanding features of interest in Stevens' paper are: First, the emphasis laid upon the value of urethral dilatation in females as a relief measure in urinary troubles. I have used simple dilatation of the female urethra for the relief of acute cystitis during the past four years with uniformly good results. Frequently, after alkalines and urinary antiseptics and rest in bed had failed to effect relief, dilatation was followed by prompt recovery. A very carefully taken history in many of these cases will reveal a gonorrheal origin of the stricture.

Second. The implied admonition to not take the patient's word for the interpretation of symptoms, as illustrated in his third case: One experience cured me of this habit, too frqeuently indulged in by physicians. A young woman, 31 years old, was pregnant. At the end of the third month she came, complaining that she was menstruating. Suspecting an abortion, I ordered her to bed. Promptly the bleeding stopped. I explained to her that in rare instances women menstruated during the early months of pregnancy. Within two weeks the supposed menses began again. Vaginal examination revealed no bleeding from the uterus. However, oozing of blood from the urethra was noticed. Cystoscopic examination revealed the presence of a villous papilloma. She was referred to an urologist for fulguration of the growth.

R. P. ROANTREE, M.D. (Elko, Nevada)—Doctor Stevens has made some of us who are doing general work feel less like criminals than the genito-urinary men who insist that all such cases should be immediately referred. A general practitioner can take a complete history, make a thorough physical examination, and check his findings against the history. I have found some benign and two malignant strictures of the urethra. Symptoms in all cases were greatly relieved by dilatation. Hank's uterine dilators were particularly useful in this procedure. In my work I make an absolute rule never to attribute symptoms to a movable kidney until every other possibility has been ruled out.

MILEY B. WESSON, M. D. (Flood Building, San Francisco)—Doctor Stevens has emphasized throughout this paper that a careful history and a thorough physical examination are far more important than a cystoscopic investigation; and it is from articles of this type that the general practitioner learns how to avoid the pitfalls of ultra-scientific urological diagnosis. If all patients were carefully examined by an internist before being subjected to urological maneuvers, fewer mistakes would be made.

The second case illustrates the principal reason for Howard A. Kelly's nephropexy having become practically an obsolete operation. A movable kidney is not at all uncommon and generally gives no symptoms. In this case the three cardinal symptoms—pain, gastro-intestinal irregularities, and nervousness—of nephroptosis that call for kidney suspension were present. The fact that they were not due to the movable kidney but to carcinoma of the colon would have been discovered if the patient had had a thorough physical examination by a competent internist.

The medical profession owes Stevens a debt of gratitude for the pioneer work he has done in calling attention to the frequency of urethral strictures in females. The relief that follows the mere passage of sounds is out of all proportion to the simplicity of the treatment.

The last case should be of interest to both pediatricians and urologists, as a bilateral pyelitis in an emaciated female of less than five months was cured by means of three kidney lavages. The use of alkalies, etc., by mouth should be tried in most cases of pyelitis in infants; but this treatment is generally persisted in for too long a time. Pelvic washings should be used in all cases that are severe, or do not respond to immediate alkalinization. The fact must not be lost sight of, however, that the passage of a cystoscope in the very young or the extremely aged is a matter requiring delicate technique, as the shock is often greater than that of an abdominal operation. Stevens has demonstrated clearly that there is no age limit for cystoscopy.

Can any one in his senses suppose that diseases a man has been his whole life contracting and to which he is adding every day by perseverance in unwholesome diet, and bad habits, are to be thus removed by a coup de main ou de baguette? or that they will not return, be they cured or conjured away ever so often, while he continues the same mode of life that brought them on at first?—William Cadogan, "A Dissertation on the Gout" (Eighteenth Century).

The greatest part of mankind is angry with the sinner, not with the sin.—Seneca.

CHOLECYSTOGRAPHY—ITS VALUE AS A DIAGNOSTIC PROCEDURE

By WALTER W. BOARDMAN, M. D., AND ROGER B. MCKENZIE, M. D., *San Francisco*

[*Note—The Editorial Councilor, who evaluated this discourse for the editor, pronounced it "a distinct and valuable contribution to medical science," to which the editor would like to add that it is also a contribution to medical literature.*—EDITOR.]

We feel that in tetraiodophenolphthalein we have a safe and reliable method of studying some of the functions of the biliary system.

Failure of visualization indicates disturbed function, usually the result of definite pathological processes in the gall-bladder or cystic duct. Such cases we have considered essentially surgical, provided there was no conflict in the assembled findings.

Incomplete visualization after the intravenous method indicates some disturbance in biliary tract function, which may be due to pathological processes in cystic duct or gall-bladder. We have felt inclined to watch these cases on medical treatment for a time before advising surgery.

Normal visualization indicates a fairly normally functioning biliary system, which, however, does not exclude slight pathological processes, but would certainly seem to contra-indicate any surgical procedures, except with the most definite clinical indications.

Caution and experience are necessary in interpreting the results, especially after the oral method. Above all, these findings must be correlated with the clinical findings.

CHOLECYSTOGRAPHY, the visualization of the gall-bladder by the oral or intravenous administration of certain of the phthalein dyes, is a valuable diagnostic procedure and worthy of more general adoption.

Those interested in the development of the test are referred to the earlier papers of Graham, Whitaker, and Carmen. For our present purpose it will suffice to recall the following facts upon which the test depends. First, the sodium salts of tetrabrom and tetraiodophenolphthalein are taken from the blood by the liver and excreted in the bile. Second, because of the bromine and iodine ions contained in these salts they offer marked resistance to the passage of x-rays even in relatively dilute solutions. Third, the gall-bladder concentrates and stores the freshly secreted liver bile during the inter-digestive periods. Fourth, because of this concentrating and storage function of the gall-bladder, the density of its contents is so increased after the administration of either one of these salts that beautifully sharp radiograms of the gall-bladder are obtainable.

Successful visualization of the gall-bladder by this method is thus dependent upon: (1) A sufficient concentration of the dye in the blood; (2) a liver capable of excreting the dye at a fairly normal rate; (3) a patent cystic duct, allowing the entrance of freshly secreted bile to the gall-bladder; (4) a gall-bladder whose walls are sufficiently elastic to allow for the expansion and contraction necessary for gradual filling and emptying; (5) a gall-bladder capable of concentrating its contents; (6) a gall-bladder whose lumen is not filled with stones; (7) a patent common duct; and (8) a sphincter of Odi that closes the common duct during the inter-digestive periods. Given all these conditions, a satisfactory visualization should always be obtained; on the other hand, a disturbance of any one or more of these conditions may result in a partial or complete failure.

The blood concentration after the intravenous administration of the dye in the usual dosage is always sufficient, but with the oral administration there is introduced the uncertain factor of intestinal absorption. However, from the evidence at hand, it seems probable that failure, due to faulty intestinal absorption, will be of infrequent occurrence. The functional efficiency of the liver must always be kept in mind, but with the large factor of reserve, failure due to this cause should be infrequent and readily recognized. An obstruction of the cystic duct, organic or functional. will naturally result in a complete failure. Again, a gall-bladder with walls thickened and inelastic offers little opportunity for the entrance of the dye-containing bile, and therefore should give no shadow, or, at best, but a faint shadow. Similarly, a gall-bladder incapable of concentrating its contents should cast but a faint shadow or none at all. If the lumen of the gall-bladder is filled with stones it is evident that the concentration of the dye will be insufficient to cast a sharp shadow, and we should expect either no shadow or a faint mottled shadow. An obstruction of the common duct below the cystic duct would seem to promise a failure because of the inability of the dye to get into the already overfilled gall-bladder. Finally, recalling that the gall-bladder fills when the sphincter of Odi is contracted, it seems probable, on theoretical grounds at least, that a temporary or permanent relaxation of this sphincter would be followed by a partial or complete failure of visualization. From this, satisfactory visualization would seem to indicate a fairly normally functioning biliary system, partial or complete failure of visualization, a disturbance of function which should usually be found in the cystic duct or gall-bladder.

The intravenous method of administering the dyes was first used and has the advantage of absolute accuracy of dosage. The disadvantages of the intravenous method are that it usually requires hospitalization, that it calls for rigid asepsis, that there is at times objection to, or at least question about the injection of a considerable quantity of a highly colored solution, and finally that sharp reactions during or following the injection may occur. This last difficulty was encountered in about half the cases when using the tetrabromphenolphthalein, but happily is very infrequent and of very mild degree with the tetraiodophenolphthalein.

On the other hand, the oral administration has the advantage of not requiring hospitalization nor special technique of administration. It arouses little fear in the patients, and although reactions are occasionally encountered they are usually slight and of short duration, consisting of abdominal distress, occasional nausea and vomiting, and sometimes diarrhea.

These advantages clearly make the oral method more generally applicable, and in our later work this has been the method of choice. However, for the present, at least, we feel it advisable to re-examine with the intravenous method all cases failing to visualize by the oral method. By this means we eliminate intestinal absorption as the cause for the failure and place the trouble definitely in the biliary system. Eventually, it may be proven that

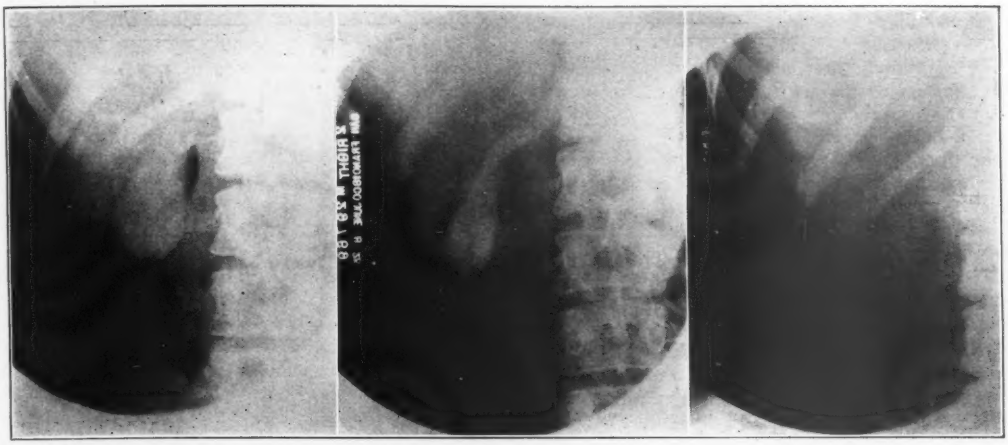

Plate 1. Normal gall-bladder four hours after intravenous injection of tetraiodophenolphthalein.

Plate 2. Normal gall-bladder nine hours after intravenous injection of tetraiodophenolphthalein.

Plate 3. Normal gall-bladder twenty-four hours after intravenous injection of tetraiodophenolphthalein.

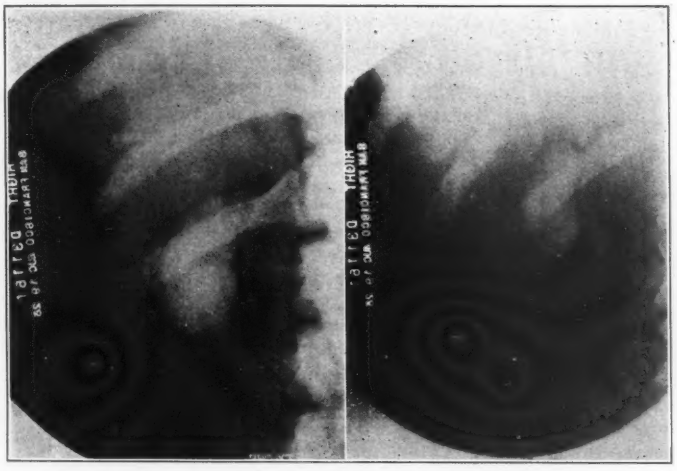

Plate 4. Normal gall-bladder fourteen hours after oral administration of tetraiodophenolphthalein.

Plate 5. Normal gall-bladder eighteen hours after oral administration of tetraiodophenolphthalein.

this precaution is not necessary, but until such a time our present routine seems indicated.

For the oral method we followed the plan proposed by Whitaker. The patients are given enteric coated pills of tetraiodophenolphthalein in the proportion of one pill for every ten pounds of body weight, with twenty pills as a maximum. As the pills contain 300 mgs. each, this makes a maximum dosage of 6.0 grams. They are also given the following instructions: (1) At 6 p. m. eat a light supper without meat; (2) starting at 8 p. m. take four pills with half a glass of water every half-hour until all pills are taken; (3) while taking the pills, and from then until going to sleep lie on the right side, taking half a glass of water every half-hour; (4) do not break the pills; (5) take no physic; (6) take no food until directed to; (7) report at the x-ray laboratory at 10:30 a. m.

At this time plates of the gall-bladder region are taken, and it is desirable to include one of the entire abdomen, as this will show the number of pills undissolved and give an approximate idea of the quantity of the dye remaining unabsorbed. Three hours later a second set of plates are taken, after which a full meal is given. Two hours later the final examination is made.

Graham has recently reported the administration of tetraiodophenolphthalein in capsules coated with phenyl salicylate, the dose averaging 0.07 gm. per kilo of body weight, or about 5 gms. for the average adult. This dose is divided into five capsules, which are administered during the evening meal at 6:30 p. m. Food is withheld until after the films are made at 9 a. m. and 1 p. m. the following day. After these films a glass of milk or cup of coffee is given and further films taken at 5 p. m., and in some cases at 9 a. m. the next day, the regular evening meal being allowed. Water is allowed as desired after taking the drug. This routine is more readily followed than Whitaker's, and we have recently adopted it, although still using the enteric coated pills developed by Whitaker.

For the intravenous method 2.5 to 3.5 mg. of tetraiodophenolphthalein dissolved in 30 cc. double-distilled water and sterilized in boiling water for forty-five minutes or the autoclave for thirty minutes is injected into the median cephalic or the basilic vein. With the tetrabromphenolphthalein it was advisable to administer it in divided doses, but this is unnecessary with the tetraiodophenolphthalein. The patients are instructed to remain in bed and to refrain from food. Plates are taken four, nine, and twenty-four hours after the injection. Food is allowed after the nine-hour examination,

and, if desired, films may be taken an hour or two after this meal.

In examining these plates it is found that after the intravenous method the four-hour films normally show the gall-bladder as a fairly large, smoothly outlined, moderately dense shadow. In the nine-hour films there is an increase in the density of the shadow, but a decrease in the size. Films taken after a meal show a decrease in both size and density, and finally the twenty-four-hour films show either no shadow or a small irregular faint shadow. It is thus possible to study the size, shape, position, and emptying of the gall-bladder, as well as the variations in the density of the shadow. With the oral method we are able to study the same items, but with less exactitude.

In reviewing the results, the cases fall naturally into three main groups:

First. The cases giving a perfectly typical reaction, as previously described. This indicates a biliary tract that is functioning normally, and although it does not exclude slight pathological changes, would seem to exclude gross abnormalities.

Second. The cases in which there is a complete failure of visualization. This negative evidence, especially after the intravenous method, is of the greatest value and indicates a marked disturbance in biliary tract function. This disturbed function is usually the result of definite pathological processes in the gall-bladder or cystic duct—cholecystitis, cholelithiasis or cystic duct obstruction. However, the possibility that spasm of the cystic duct or relaxation of the sphincter of Odi may produce such a failure must be kept in mind.

Third. The cases in which there is an incomplete visualization. Under these we would group the cases in which the density of the shadow seems insufficient, those in which there is no evidence of increased density between the first and second examinations, or in which there is no change in the size of the shadow in the various films, or in which there is either rapid or delayed emptying. Any or all of these findings result from disturbed function of the biliary tract and are probably dependent upon moderate pathological processes. However, until we have had considerable experience caution is advisable in interpreting these variations, especially if the oral method alone is used.

The size, shape, and position of the shadow are of interest, but apparently of little diagnostic importance, and vary with different body types. Irregularities in the contour of the shadow may be of some value in indicating adhesions or pressure. Variations in the density of the shadow may result from stones, papillomata, overlying gas, calcified glands, etc., and must, therefore, be interpreted with caution.

We have used the test in 109 cases up to this writing; in four the dye was given rectally, thirty-eight by mouth, and sixty-seven intravenously. Rectal administration was soon abandoned, as the degree of absorption was too uncertain and considerable rectal irritation was produced by the dye. Of the thirty-eight who received the dye by mouth, seventeen gave normal visualizations, eleven incomplete, and ten no shadows. In this group five cases have been operated upon, three of whom gave no shadow, and two incomplete visualizations. In all five there was definite pathology in the gall-bladder. Of the sixty-seven intravenous cases, fifteen gave normal reaction, twenty-six incomplete, twenty-five no shadows, and one suffered so severe a reaction with the tetrabromphenolphthalein that no films were taken. Of this group fifteen have been operated upon, seven having given no shadow, seven incomplete shadows, and one a normal shadow. In this latter case there was a definite chronic appendicitis, but the changes in the gall-bladder were very slight. Of the remaining fourteen cases, all showed definite pathology. One was especially interesting in that, although there was no shadow on any of the films at operation, the duct was patent and the wall and mucous membrane practically normal, but there was a solitary stone about 1 cm. in diameter in the gall-bladder. Here the failure in visualization resulted, not from an organic obstruction of the cystic duct, marked thickening of the gall-bladder wall, nor disturbed function of the mucous membrane, but apparently from a reflex spasm of the cystic duct, or a reflex relaxation of the sphincter of Odi produced by the presence of the stone.

Of the unoperated cases, the findings by this method have closely paralleled the conclusions reached by the other methods of study. We hope to keep these cases under observation and report more completely at a subsequent time.

We are convinced that the evidence furnished by this method is, in the majority of cases, more definite and reliable than that furnished by the other special methods of examination. Thus, the indirect and direct evidence of gall-bladder disease noted in the routine barium meal study, the demonstration of a shadow of a supposedly thickened gall-bladder, and the findings by the Lyon's method, although of value, have in our experience been less dependable. Of course, the occasional demonstration of undoubted gall-stone shadows is very convincing, but many stones fail to give convincing shadows, and also many cases of biliary tract disease are uncomplicated by stones.

Here it should be emphasized that no special method of examination should be solely relied upon in arriving at a diagnosis, and the findings by this test must naturally be correlated with the findings resulting from careful clinical study, history, physical examination, etc.

350 Post Street.

"The physician is in charge of the patient," concludes a report of the Associated Out-patient Clinics of New York. "It is his responsibility to diagnose the disease and to prescribe treatment. He is the head of the unit organized for the benefit of the patient; the social worker is a part of this unit. Working with the physician, fitting her specific qualities into the plan of action, the social worker reaches her greatest usefulness to the patient. Working alone, touching the physician only casually, she cannot function to the best advantage. It is, therefore, highly important that, for the exercise of her primary duty 'to further restoration and maintenance of health', she work under the immediate direction of the physician. It is equally important that the physician should outline the principles for the social worker to follow."

Choose rather to punish your appetites than to be punished through them.—Epictetus.

SYPHILIS IN PREGNANCY

By KENDAL P. FROST, M. D., *Los Angeles*

The usual type of syphilis to be dealt with in pregnant women is the latent type—i. e., in which no active process is demonstrable and in which there may or may not be a positive complement fixation test.

The recently introduced precipitation test, known as the Sachs Georgi reaction, apparently gives fewer false positive reactions than any of the standard modifications of the Wassermann test.

Treatment should be vigorous and continued throughout pregnancy until about two weeks from term. Pregnant women usually stand active treatment well.

A phenomenon, known as the Herzheimer reaction, is probably responsible for many of the abortions occurring in consequenc of anti-syphilitic treatment.

If treatment is begun early and carried through the entire pregnancy, there is practical assurance of a healthy child being born.

DISCUSSION *by Lyle G. McNeile, Los Angeles; J. R. Booth, Oakland.*

IN a general way the problem of syphilis in pregnant women does not differ from the problem in women in other physiological states. The chief difference is the greater difficulty in diagnosis of a latent syphilis and, on account of the child, the greater urgency for active and prolonged treatment.

A pregnant woman may have syphilis of any type and in any stage—early or late, active or latent. As a rule, this infection is conjugal and has been acquired directly from the mate or through an ovum infected through the spermatozoa. However, syphilis acquired during pregnancy is not unknown. In patients where infection occurs after gestation the liability of infection of the fetus decreases with the duration of the pregnancy, and at eight months it may not occur at all.

The usual type of syphilis to be dealt with in pregnant women is the latent type, i. e., in which no active process is demonstrable and in which there may or may not be a positive complement fixation test. The value of the Wassermann reaction in these patients is very uncertain. Those giving repeated positive reactions probably should be considered syphilitic. The lipoid metabolism is, however, affected during pregnancy, particularly cholesterol, which influences the Wassermann reaction. Consequently, without a good history or other findings of syphilis or finding evidence of the disease in the mate, an indefinitely positive reaction should be regarded with the utmost conservatism. Williams states that positive Wassermann reactions occur in 11.2 per cent of all pregnancies; that of these less than half will have syphilitic children. Likewise, one baby in one hundred will have syphilis with the maternal Wassermann reaction negative. He concludes that study of the Wassermann reaction from fetal blood at birth is not worth while, but believes that microscopical study of the placenta is much more valuable—tallying with findings in the child in 80 to 90 per cent of cases. The recently introduced precipitation test, known as the Sachs Georgi reaction, apparently gives fewer false positive reactions than any of the standard modifications of the Wassermann test.

In pregnant women the chief action of the syphilitic virus is the production of abortion or stillbirth. The longer standing the disease, the more liable is there to be a viable fetus, and a healthy child can be born to an untreated syphilitic mother if enough time has elapsed after infection. Organic syphilis of any form may be present in a pregnant woman, and is only of importance as disease of any given organ may affect pregnancy and as it may demand caution in treatment. Treatment should be vigorous and continued throughout pregnancy until about two weeks from term. Pregnant women usually stand active treatment well.

A phenomenon, known as the Herxheimer reaction, is probably responsible for many of the abortions occurring, in consequence of anti-syphilitic treatment. This reaction is characterized by a sudden flareup of an active syphilitic lesion with intensification of all its symptoms and occurring immediately after beginning treatment. It is most characteristically seen after the first arsphenamin injection when not preceded by mercury or iodide. It can be produced by mercury alone, but is not usual unless an initial large dose is used. The mechanism of the Herxheimer reaction is not definitely proved. Theoretically, the rapid action of the drug kills a large number of spirochetes, liberating their toxins with a resultant local aggravation of the lesion and its symptoms. In the placenta this might cause abortion. It can be obviated by a series of mercury injections or rubs—even for a few days, before arsphenamin is given.

Of course, the earlier in pregnancy treatment is instituted, the better are the chances for the child coming to term and for its being healthy. If treatment is begun early and carried through the entire pregnancy, there is practical assurance of a healthy child. Should treatment not be begun until the latter half of pregnancy, it should be continued in the child after birth. The details of treatment are not important as long as certain principles are borne in mind. The drugs used are powerful and are both kidney irritants. Arsphenamin is also a liver irritant. Since these two organs may become pathologically involved in pregnancy, they should be watched carefully when the pregnant woman is having anti-syphilitic treatment. The urine should be tested for albumen before every treatment, the blood pressure observed frequently, and the bowels should be kept regular. It is usually well to administer a mild saline cathartic the morning of the day for an arsphenamin injection. According to Schamberg, the use of mercury and arsphenamin together is more toxic to the liver than the administration of each in a separate series. It has, consequently, been my habit to give five mercury injections, using the salicylate in oil. Then a series of three to ten arsphenamin injections at intervals of from three to ten days. As a rule, the shorter the interval between treatments the fewer injections are needed. However, during pregnancy it would seem advisable to give the injections at longer intervals and give more of them—e. g., one week apart and give five to eight, depending on the tolerance of the patient. This series would be followed by weekly mercury, beginning with ½ gr. and increasing gr. ss. each dose until 1½ to 2 gr. is reached, decreasing the dose if any signs of mercurialism appear. It should not be necessary to give more than one series of arsphenamin followed by mercury throughout the rest of pregnancy. This should insure the birth of a healthy child, but is not sufficient to cure the mother. A couple of months after the puerperium, treatment should be resumed and

continued at least one year to eighteen months after a negative blood has been obtained. The Wassermann reaction should be made at intervals of three months for the next two years, and every six months for the next three.

I believe, however, that should such a patient become pregnant again it is a matter of good insurance to the child that the mother resume mercury in some form during the pregnancy. Discretion is the better part of valor, and although we talk glibly of cures, we do not discharge a patient without a string attached to the prognosis.

523 West Sixth Street.

DISCUSSION

LYLE G. MCNEILE, M. D. (523 West Sixth Street, Los Angeles)—For many years the outpatient clinic has been giving anti-syphilitic treatment to all cases in which repeated abortions, stillbirths due to prematurity or to unexplained cause, and cases in which the fetus was macerated, regardless of the Wassermann test. Recently, we have been doing routine Wassermanns on all patients. Personally, I believe that we overlook many cases of latent syphilis, and that these unrecognized cases are responsible for quite a number of fetal deaths. This paper is very timely. The treatment appeals to me as being conservative and effective.

J. R. BOOTH, M. D. (First National Bank Building, Oakland)—Dr. Frost's paper covers the subject in a very interesting way. Although one may not agree with his conclusions in regard to the pregnant and non-pregnant woman, it is instructive.

There is some physiological reaction in the syphilitic pregnant woman which gradually tends to giving birth to a live child, other than the length of time since having the primary inoculation.

At present it is generally agreed that only after several distinctly positive cholesterinized antigen Wassermann reactions can the laboratory findings alone be depended upon. The clinical history is the best diagnosis in the final analysis.

Certain races are more apt to have it than others, and the economic conditions are a decided factor.

The latent syphilitic pregnant woman is the one we have mostly to deal with, and she will probably have all the customary symptoms of the pregnant woman, but they will be exaggerated. This is particularly so of the neuralgias and headache, which is apt to be persistent, and there may be insomnia. There may be some evidence of the infection of the skin, the mucous surfaces, eye, or of the bones.

The patient is not apt to abort, although syphilis was formerly considered the most likely cause, but she will probably go on through to the sixth or eighth month. There will be life until about a week or ten days before miscarriage. All life will cease and a macerated fetus will be born, or she may go on to full term if she is a multipara and give birth to a dead baby, or if she has had several, a live one which may or may not be sickly.

A primary uterine inertia often delays engagement and delivery for hours with final instrumentation.

We have the more difficult problem of diagnosis than in the treatment of them, but there are a few points to consider:

First. It is never too late to begin treatment, or too early after the birth to continue the treatment.

There should be great care of overtreatment, although pregnant women seem to stand treatment exceedingly well. Any syphilitic pregnant woman who has to be frequently examined because of the excessive treatment, rather than the regular observation that we give pregnant women, is getting too much treatment.

When we get a persistent positive Wassermann reaction, do not continue to inject to get a negative. Nor can we accept a negative finding too soon.

I have never seen the Herxheimer reaction, but imagine it can be easily induced. In any event, the suggestion that Frost makes that arsphenirini should be preceded by a series of mercurial rubs, or injections for days, is excellent.

THE PRESENT DAY ADVANCE IN PLASTIC SURGERY, WITH SPECIAL REFERENCE TO THE CORRECTION OF DEFORMITIES OF THE NOSE AND ABOUT THE ORBIT.

By J. PAUL DE RIVER, M. D., *San Francisco*
(From the Ear, Nose, and Throat Section, United States Veterans' Bureau)

PLASTIC SURGERY is an ancient art. To Aulus Cornelius Celsus, a Latin physician and philosopher, who is supposed to have lived in the time of Augustus, we owe our first authentic principles of the science. He introduced the Hippocratic system to the Romans, he being known as the Roman Hippocrates. His best work appeared in the De Medicena, the first edition of which was published in 1478 in Florence. One may find reference made to the art in the Sanskrit writing, and Susrata in his Ayur-Veda (the exact period is unknown) discloses the use of the rhino-plastic method. The art of plastic surgery seems to have waned throughout the Middle Ages and remained practically unknown for a time, finally being revived in the fifteenth century by Branca, a Sicilian surgeon, who established a reputation by building up noses, using the skin of the face. Following Branca are to be found the names of many eminent surgeons throughout the world who have contributed much to the art.

During and following the World War, because of the great influx of clinical material, great strides have been made, due to the various injuries and disfigurements. Many new methods have been tried with varying degrees of success and, due to the untiring efforts of some of the most capable surgeons, this branch of surgery is now a recognized art, applicable to the deserving who have suffered the wounds of battle, and not limited to satisfy the vanity of the less comely. It has taken the art out of the hands of the so-called beauty specialists and placed it on a firm and scientific basis, thanks to the efforts of some of our foremost surgeons, and it serves as a surgeons' contribution to humanity.

It will not be amiss to briefly discuss a few of the fundamental principles which are confronted by those undertaking the field of plastic surgery, and to enumerate a few of the essentials that, if observed, may save one from many of the pitfalls and serve to further demonstrate the underlying principles which lead to success. It goes without saying, that those venturing into the field of plastic surgery should be "disciples of Job," as patience and painstaking are two very essential factors. The desired results cannot always be obtained at one sitting, and the surgeon should be ever patient to wait and give nature a chance; a little at a time, done well, is far better than a gross attempt to accomplish the impossible at one sitting, which ofttimes spells failure and discouragement.

Plastic surgery is not what some may think; it is erroneously believed by many to be a dramatic field filled with glamor. How often does such an idea culminate in tragedy, and the overzealous and hurried surgeon finds that his labors have proved a failure! The temperament of the operator is of importance; here an artistic temperament is the *sine qua non,* for the ability to create and build lends

itself admirably to this branch of surgery. For, in reality, the surgeon but attempts to rebuild as artistically as possible that which has been destroyed or faultily cast by nature. The light touch of the surgeon is a quality which should be developed. The ability to use instruments whenever possible, without resorting to digital manipulation, will often prove a valuable asset, especially in the handling of skin-grafts. The value of tissue conservation by the careful preserving of all tissue is a point that cannot be too largely stressed. Rough handling and tearing of tissue hinders nutrition, favors necrosis, and increases the chances of secondary infection.

We must not, in an attempt to correct deformities, create or leave behind us blemishes equally gross in appearance. We should endeavor to secure careful approximation of raw surfaces with as little tension as possible by using the finest suture material, preferably catgut for cutaneous sutures, as it is the least irritating; and control hemorrhage by pressure when possible, thus avoiding the burying of sutures which may act as a bed for bacteria. (This does not apply to the control of bleeding from large vessels. When necessary, catgut is preferable because it is absorbed.)

Grafts placed in their new position should lie in their new place with the least possible tension, with thorough coaptation of edges. The free use of relaxation sutures should be made (subcutaneous sutures to relieve tension). The lack of proper asepsis and faulty judgment on the surgeon's part are often the cause of a large number of failures. Foci of infection, when existing, should be first dealt with and cleared up before attempting operative procedure. This, I think, holds good for plastics on any part of the body, and it is especially true of plastics about the head and face. One would surely not attempt to perform a plastic operation on the nose when the patient is known to have an infected sinus, nor would one attempt a plastic operation about the orbit when the lachrymal gland or sac is infected. It, therefore, holds good that these various foci of infection should be searched for and cleared up before operation is undertaken. It is also important to search for constitutional conditions, such as syphilis and tuberculosis, and, if possible, to eliminate these conditions with proper therapy. Having observed the foregoing, one can obtain the desired result in the majority of cases.

In the correction of the various deformities of the nose where grafting is essential for the formation of the support of the bridge, a variety of material has been used, all of which have proven unsatisfactory with the exception of two, namely: cartilage and bone. As to which of these is the better, I shall not argue, as both have been used successfully in the hands of certain operators. When bone is used in rhino-plastic surgery, it is usually procured from the rib, tibia or ilium, although I believe a portion of the scapula has been advocated in certain cases, as well as the third digit in other cases where there has been total loss of the nose. The turbinate bones (middle and inferior) have also been used with some success in depressed or saddle nose. In cartilage grafting, the cartilage of the seventh, eighth and ninth ribs, and zyphoid offer the selective sites for procuring the graft. In all instances, whether in the use of bone or cartilage, it is important to preserve as much of the periosteum or perichondrium as possible. The proper approximation of raw surfaces and the fixation of the graft must be assured. This may be accomplished by suture, splints or pressure bandages, all of which have their places. In superficial scars of the nose an attempt should be made to procure a graft from some part of the face, so that it will match as nearly as possible the skin of the nose. An adequate amount of skin can be taken from the upper eyelid, which is an excellent match and leaves no disfiguration following its removal. If the area is too large to allow the removal of a sufficiently large graft from this spot, the temporal graft is fairly adaptable and the shrinkage very slight. If a still larger graft is necessary, I use the outer side of the thigh, following Thiersch's method when possible.

The deformities of the nose encountered are varied: the hooked nose, the overhanging tip, the saddle-backed nose, the African nose, and lateral deformities and exostosis. Each in itself presents a distinct mechanical problem to tax the ingenuity of the surgeon who, before attempting operative procedure, should examine the case from all angles, search thoroughly for the etiological variation from normal, and carefully consider the mode and method for the correction of the deformity. Anatomical variations, due to traumatism, should be separated from those changes resulting from constitutional disease, such as syphilis. Diseased conditions of the para-nasal sinuses should be sought for, and rigid treatment carried out before undertaking operative procedure.

The choice of the anesthetic is of no great importance; local or general may be used with equally good results. However, I frequently leave this question to the decision of the patient. I will briefly outline the operation, as performed under local anesthesia. The operative technique is applicable to all forms of deformities. The patient is placed in a semi-recumbent position and draped for operation. The cilia at the nasal vestibule are clipped with fine scissors. The mucous membrane of the nose is painted with a 10 per cent solution of cocain, to which is added a few drops of adrenalin chloride. The external nose is then painted with tincture of iodine, which is carried well over both cheeks, up between the eyes and down over the upper lip, and the excess removed with alcohol. The next step is the cleansing of the interior of the nose. A swab of pure alcohol is inserted into each nostril and passed over the mucosa. The injections are then made. A one-half of 1 per cent novocain solution is injected subcutaneously beneath the mucous membrane covering the septum. This is done first, on one side of the septum and then on the other. The needle is then inserted in the region of the lateral cartilages, where further injections are made. The attention is next turned to the anesthetization of the external nose, where four injections are made: No. 1, directly over the bridge of the nose; No. 2, directly on the tip; No. 3 and No. 4, respectively, on either side of the nose, well out over the maxillary bones. Although incisions of the nose heal rapidly, the internal route is preferred, as it leaves no scars and no external sutures, which is important

for cosmetic reasons, and the incisions described make it possible to correct all types of defects.

The surgeon begins by making an incision along the pyriform opening of the nose. Beginning at the nasal bone, the incision is carried downward and outward through the mucous membrane and chondro-osseous junction. A periosteum elevator is passed through this incision and inserted between the periosteum overlying the nasal and maxillary bones, and the bones are swept mesially and laterally separating periosteum, subcutaneous tissue and skin from the bone. This freely liberates the entire area, extending from the root of the nose over the nasal bones and superior maxillae. A second incision is then made, beginning at the lower end of the nasal bone; it is carried downward and forward, along the anterior edge of the septum to the tip of the nose. This incision is parallel with the bridge of the nose, and is carried through the cartilage up to the perichondrium overlying the nasal bridge; then, by means of dissection, the perichondrium and soft tissues over the bridge of the nose and lateral cartilages are separated from the underlying bony and cartilaginous septum and lateral cartilages. A third incision is made from one nostril to the other. Starting at the tip of the nose, at the end of the second incision, it is carried backward along the lower border of the quadrilateral cartilage to the nasal crest of the superior maxillary bone and through the mucous membrane and cartilage. The fourth incision is made through the lower lateral cartilage at the point where the cartilage bends upon itself. Having completed these incisions, one is able to correct all types of nasal deformities.

Saddle Nose or Fallen Bridge — The operative procedure in this case depends upon the elevation of the nasal bones, together with the filling in of the depression with a graft of either rib cartilage trimmed to the desired size, or a portion of a turbinate bone. A chisel is introduced into the nose, and the nasal bones are detached freely from the frontal process of the superior maxillary bones and from the nasal process of the frontal bone. Elevation is then made sufficiently to raise the bridge of the nose. A piece of rib cartilage or turbinate bone, denuded of all save its periosteum and trimmed to the proper size, is then inserted between the anterior side of the bony septum and nasal bones, and is maintained in place by means of a padded metal splint and adhesive plaster. Within three or four days the graft becomes fixed, and in four weeks, as a rule, there is complete organization.

Humped or crooked nose is corrected by means of the saw and rasp operation. The nasal bones are shaved down to the proper level, and the protruding bony and cartilaginous septum trimmed off with scissors or scalpel. The overlying skin is then molded into position to overcome the widening which frequently results after the removal of the hump. By means of forceps the remaining portions of the nasal bones, with the frontal processes of the superior maxillary bones, are forced inward into the desired position; the splint is then applied externally to maintain them in place.

Lateral Dislocations—Before attempting to correct this type of deformity, a resection of the anterior part of the bony septum should be performed. This accomplished, the nasal bones, together with part of the frontal processes of the superior maxillary bones, can be dislocated by means of a chisel and then swung in the median line. Great care should be taken in exerting side pressure, for fear of possible fracture of the cribiform plate of the ethmoid. The results achieved will depend largely, not only upon the proper observance of asepsis during operation, but also upon the care of the nose during the convalescent period.

In performing plastics about the orbit, I will not touch upon those cases where there has been loss of bony structure, but will limit my discussion to those resulting from the loss of the soft tissues through disease of the part, trauma, post-operative deformities and congenital defects. As to the type of skin graft used in these cases, I will refrain from argument, knowing the value of both detached and pedicle grafts, both of which have their places in the armamentarium of surgery, depending upon the type of case under consideration, and the extent of destruction of the soft parts. However, after observing such men as Dr. John Wheeler of New York accomplish such marvelous results with detached grafts, it has led me, through observance and experience, to yield to this type of skin grafting when possible. When making this statement, I mean whenever there is not too large an area to be grafted, and when the destruction of tissue has been superficial. The reason for preferring the detached graft when it can be used, I will explain.

In the use of dermic and epidermic grafts, the viability of the graft depends principally upon its contact with the underlying raw surface, and if a thorough approximation of surfaces is obtained, the graft will successfully take. The approximation of surfaces is secured largely by the graft being of the proper size, it being retained in place by sutures with as little tension as possible by the application of pressure bandages and, in certain cases, by dental stent. In securing epidermis by the pedunculated method, it is often a difficult task and may be very disappointing, for the reason that, in the use of either dermic or epidermic grafts, the nutrition of the graft is largely dependent upon the pedicle. The pedunculated flap must be thick and the attachment of the graft held in place by sutures throws tension on the vital point, the pedicle, which may, through passive congestion, lead to necrosis and ultimate loss of the graft. The important points are, then, how are we going to secure absolute approximation of raw surfaces and prevent at the same time hemorrhage and the formation of an hematoma. This is important so that the graft will take. First, both the approximation of surfaces may be obtained and the prevention of hematoma avoided by firm pressure-dressings supported by adhesive tape. These pressure bandages should be maintained in place four or five days following the operation, at the end of which time the dressing is removed and the graft inspected. White, anemic places in the graft make one suspicious of necrosis. The second method of securing the proper approximation of surfaces is by the use of dental stent, and is applicable particularly to those cases where there is a desire to skin-graft the conjunctival sac, middle ear, or mastoid cavities. This method is

based on the transmission of the epithelium by the aid of stent. The stent is placed in hot water until it becomes soft; it is then removed and allowed to partly cool, formed to the desired shape and placed in the cavity that is being grafted. An impression is made of the cavity and the stent is allowed to harden; it is then removed from the cavity and the graft is spread over the stent, completely covering the stent, raw surface outward, and making sure that there is no curling of the edges of the graft. The stent form, with the graft covering, is then gently slipped into place and an approximation of raw surfaces is obtained. This is allowed to remain for varying periods of from one to three weeks, depending on the cavity that is being grafted.

As to the site preferable for procuring the graft in plastic surgery about the orbit, it applies here as it does in any part of the face. The skin from a nearby region furnishes a better match than does the skin transplanted from remote parts of the body (this does not apply to grafting in orbit, ear, or mastoid cavities). Therefore, in small defects, such as cicatricial ectropion or the like, the dermic graft from the upper lid, as suggested by Wheeler, is preferable because of its likeness to the surrounding parts and there is no resulting deformity following the removal of the graft. Next, comes the temporal region which offers a very good match, although some allowance should be made for shrinkage. In epidermic grafts, the outer portion of the thigh or the flexor side of the forearm are the sites of selection.

In outlining the various operative procedures for plastics about the orbit, I will follow largely the technique of Wheeler, used by me. I will first describe the operation for the correction of a simple cicatricial ectropion, a condition that is frequently encountered by all of us, especially by those practicing ophthalmology. In this condition the lids, more commonly the lower lid, are pulled away from the globe as a result of scar tissue, and it frequently happens that only one lid is involved, usually the lower lid.

The technique of operation for the correction of the resulting deformity is as follows: An incision is made parallel to the distorted lid margin; all scar tissue is thoroughly dissected away and hemorrhage controlled by pressure. It is necessary here, after completing the primary dissection, to dissect up small portions of epithelium on the upper and lower lid margins, carrying mattress sutures through the raw surfaces. These sutures are passed through small pieces of cut rubber tubing, overlying the skin of both upper and lower lids near their margins. The sutures are tied so as to secure apposition of the opposing raw surfaces. This results in the formation of adhesions between the two lids which causes a support of the lower lid. The skin graft is then taken, preferably from the upper lid. Sufficient skin can easily be obtained from this site to make an ideal inlay of true skin. No allowance need be made for contraction when this graft is used.

A fusiform or conilunar-shaped design is convenient, and is removed with a small scalpel or cataract knife, avoiding handling the graft as much as possible. When the graft is removed, all fragments of subcutaneous tissue are snipped off with the scissors and the graft is set in place. Fine horse-hair or paraffin silk sutures are used for maintaining it in the proper position. A pressure dressing is applied, first using a small piece of rubber tissue impregnated with sterile vaseline over which are placed gauze fluffs, which are held in place by adhesive plaster and a pressure bandage. The dressing is removed after the fifth day and the graft cleansed with a mild solution of boric acid. The sutures are removed at the first dressing. The wound is dressed every other day for the period of a week. In about three weeks after operation, light massage with sterile vaseline is advised. The adhesion between the two lids is allowed to remain for two or three months, after which it is cut with scissors, leaving no deformity.

It frequently becomes necessary to restore the cilia line, or a part of the cilia line of one of the lids. In this case, the preferable way for securing a graft is from the nasal end of the undersurface of the eyebrow or, if the whole cilia margin has been lost, to slit the eyebrow by a longitudinal incision and to remove half the brow or sufficient quantity to completely restore the cilia line. In suturing the graft in its new position, it is of advantage to invert the graft so that the hair on the graft will match, as near as possible, the cilia of the opposite lid. The same precautions are adhered to in this operation, as is previously described under the correction of cicatricial ectropion.

It frequently happens that the surgeon is called upon to restore an obliterated eye socket. The operation for the correction of this deformity I will briefly describe. After thoroughly cleansing the cavity and preparing the field of operation, the lid margins, if adherent, are separated by an incision. In dissecting, the operator should endeavor to separate the lids from the orbital contents. The dissection must be kept superficial and avoid carrying the dissection back into the orbital tissue, which often causes failure. Dissection should be carried temporally and below, well under the orbital margin, as the graft must adhere to the periosteum and anterior aspect of the orbital margin. On the nasal side the dissection should be carried to the anterior crest of the lachrymal groove and well up to the orbital margin above. The caruncle should be preserved, if not already destroyed, as the graft will adhere to the posterior surface of the caruncle and furnish it with a permanent lining. In the division of the tissues above, the dissection should be carried beyond the orbital rim, if necessary, to the roof of the orbit, before placing the graft, and the place of cicatricial and granulation tissues should be removed. The lid margins should not be too thick; if necessary, remove a portion of the tarsus, allowing enough tarsus to remain to support the cilia. At this stage, dental stent is immersed in hot water for a period of thirty seconds, then removed and allowed to partly cool. It is then slipped into the socket, where an impression is taken of the cavity; after allowing time to harden, it is removed. The operator now turns his attention to the securing of the skin graft. Epidermis is probably the most satis-

factory tissue for lining, the cavity being free from an excess of oily secretion and hair.

A Thiersch graft is taken from the lateral aspect of the thigh. Enough skin is taken to completely cover the dental stent, raw surface outward, making sure that there is no turning in or curling of the edges. The average graft usually measures from 3½ to 4 inches in length by 3¼ inches in width. The form, with the graft covering, is gently slipped into the socket, the overlapping edges of the graft being placed forward; the lids are then closed and a pressure bandage, reinforced with adhesive tape, is applied. The dressing is changed in from five to seven days, the form being left in place for twenty-one days, when the stent is gently removed, allowing the graft to remain behind. If there has been a successful taking of the skin-graft, the result will be a permanent eye socket completely lined with epidermis, which furnishes a fair stump for an artificial eye. The artificial eye may be put in any time within two or three weeks after the removal of the stent.

At times we are called upon to correct deformities of the upper lid, either resulting from a wound or associated with ectropion. Usually, in these deformities there is an involvement of the skin, conjunctiva, muscle, and tarsus. When deformities are not too large, the punched-out or notched area can be repaired very satisfactorily by the "halving operation."

All scar tissue is excised, the tarsus is identified and cut clean, so as to give a firm approximation of the edges; equal amounts of tarsus are removed at the upper and lower margins. The skin and orbicularis are cut so as to form a flap on one side and a rectangular area of tarsus is exposed on the other side. If the eyeball has been removed, a canthotomy must be performed and a portion of the external canthal ligament severed, to release the tarsus. This done, the tongue of skin is trimmed enough for adjustment, and a small triangular piece of skin may be removed above to avoid puckering. The conjunctiva and tarsal flaps are first sutured, passing a mattress suture through the flaps and tying, after passing it through a small piece of rubber tubing. Sutures are introduced in the skin to give apposition to the skin flaps. The mattress sutures are removed on the fourth day, and the skin sutures on the sixth. The tarsal wound and skin wound should never be in the same position, but should be placed so that there is no lapping, for here lies the secret of success in this operation.

In concluding, we may briefly sum up the important points to be considered in the application of plastic surgery for the correction of the various deformities of the nose and about the orbit:

1. The surgeon should search for the underlying causes of the deformity.

2. He should be familiar with the anatomy of the part to be corrected.

3. Thorough attention should be given the importance of primary eradication of all foci of infection.

4. The constitutional condition of the patient should be thoroughly understood, and where syphilis or tuberculosis is found proper therapy instigated.

5. The avoidance of creating new disfigurements in an attempt to correct those already existing.

6. Judgment in selecting sites for securing skin grafts; the advantage of securing skin that matches the surrounding parts when possible.

7. The control of hemorrhage by pressure rather than by burying sutures.

8. The avoidance of roughly handling the tissues by either digital or careless instrumental manipulation.

9. Rigid asepsis and surgical technique.

10. Patience on the part of the operator. The surgeon should not force too much at one sitting. Nature should be given a chance. Also remember the dictums of Gillies, "Time is the greatest ally of the surgeon."

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TYPE TREATMENT OF PULMONARY TUBERCULOSIS

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The rational treatment of pulmonary tuberculosis should be based somewhat upon the type of disease present.

Broadly speaking, there are two predominant types of pulmonary tuberculosis—the exudative and the productive.

The onset of the exudative type of pulmonary tuberculosis is usually stormy, and the intensity is determined largely by the area or areas involved.

The course of the exudative type when retrogressing is often surprisingly uneventful. The temperature may fall rapidly, soon the pulse may be normal, and the weight excellent.

The course of the productive type if retrogression occurs is, as one might expect from the pathology, marked by a slower fall in temperature and pulse, with occasional subsequent elevation.

The differential evidence furnished by the roentgenogram is of the utmost importance, provided the plates or films are technically good.

Local and general rest, taken as far as possible in the open air, with a high-caloric diet, forms the foundation of all pulmonary tuberculosis therapy.

Exercise is rest in its negative phase—it is merley the withdrawal of an equivalent amount of inactivity.

These principles in the treatment of pulmonary tuberculosis are primary; all others are secondary.

DISCUSSION *by Chesley Bush, Livermore; Lewis Sayre Mace, San Francisco; J. Tracy Melvin, Porterville; Ralph L. Byrnes, Los Angeles.*

THE rational treatment of pulmonary tuberculosis should be based somewhat upon the type of disease present. It is no longer sufficient to treat all cases of pulmonary tuberculosis merely as minimal, moderately advanced or advanced cases. The type, as well as the extent of the disease, demands consideration.

Broadly speaking, there are two predominant types of pulmonary tuberculosis—the exudative and the productive. Certainly, aside from minimal cases or frankly massive pneumonias, it is difficult to find lesions of any extent wholly exudative or wholly productive. Nevertheless, the one or the other frequently predominates and largely determines the clinical course of the disease. Let it be understood, therefore, that the terms "exudative" and "produc-

tive," as here employed, refer merely to the predominant characteristic of the individual case.

THE EXUDATIVE FORM

The exudative form begins with a coagulable exudate and an infiltrate of leucocytes and cells from the alveoli, atria, and bronchiols. The unstable nature of this material makes aspiration into new areas easy and, consequently, favors extension. Indeed, changes, either progressive or retrogressive, might be expected to take place quickly from the very nature of the process. If retrogression occurs there may be:

1. *Resolution.* This may occur before much damage has been done to neighboring tissue. The exudate may be liquified, partially expectorated, and partially borne away by the lymph stream. The result is functional restoration. This process was undoubtedly recognized by Virchow, and more recently has been demonstrated experimentally in animals by Gardner. The latter remarks: "It is not yet demonstrated that human pulmonary tuberculosis, being, as it usually is, an autogenous reinfection upon sensitized soil, most often with virulent organisms, can likewise heal by resolution. The steps in the proof of such a process are lacking, but any experienced clinician has seen the lesions of pulmonary tuberculosis disappear before his eyes, leaving no trace that he can detect by x-ray films or by physical signs." Lacking the steps in this positive proof—surely very difficult to obtain in human beings—we are yet justified on clinical and roentgenological grounds in claiming the use of the word "resolution." If the process is not, in fact, resolution, it so closely resembles this change that, for clinical purposes, we may assume the two to be identical.

2. *Partial resolution, with a change to the productive type.* Resolution may take place slowly and be incomplete. The lesion partially disappears. Some of the exudate is removed, but a proliferation of the fixed tissue or lymphatic elements begins and the focus changes character.

3. *Caseation followed by healing.* The cells lying in the alveoli nearest the center of the focus break down as a result of toxins elaborated by the tubercle bacilli, the neighboring alveolar walls are destroyed, partly by toxins, partly by pressure. The center of the focus becomes a homogeneous, caseous mass. Complete restoration of function is impossible, since actual lung tissue has been destroyed, but the caseous material may inspissate and be encapsulated in time, or finally may even calcify.

This third process is partly progressive and partly retrogressive in character. Purely progressive changes may take place as follows:

4. *Caseation followed by cavitation.* Caseation occurs as above described. Ferments liberated by the destruction of leucocytes tend to liquify the caseous material. Excavation follows, leaving a fresh, thin-walled cavity, whose extent depends upon the extent of the original caseous focus.

5. *Rapid extension, with early death.* Fresh areas are constantly involved with the production of an overwhelming toxemia, resulting in early death.

THE PRODUCTIVE FORM

The productive form is probably a reaction to a smaller number of bacilli. Thus, in the beginning, the foci are small and coalesce to form clinically recognizable tubercles. Epithelioid cells appear early and, through the coalescence of several of these, the typical Langhans type giant cells are formed. It is said that the greater the productive character of the lesion, the greater the development of the giant cells, both as to size and number of nuclei. The following changes occur:

1. *Fibrosis.* Through fibroblastic proliferation a fibrous nodule develops, with more or less hyaline change, well encapsulated.

2. *Caseation* may occur at the center of the tubercle, only to become incapsulated later.

3. *Slow extension,* with constantly occurring new areas of involvement.

4. *Ultimate massive scarring* with deformities, or firm-walled cavities.

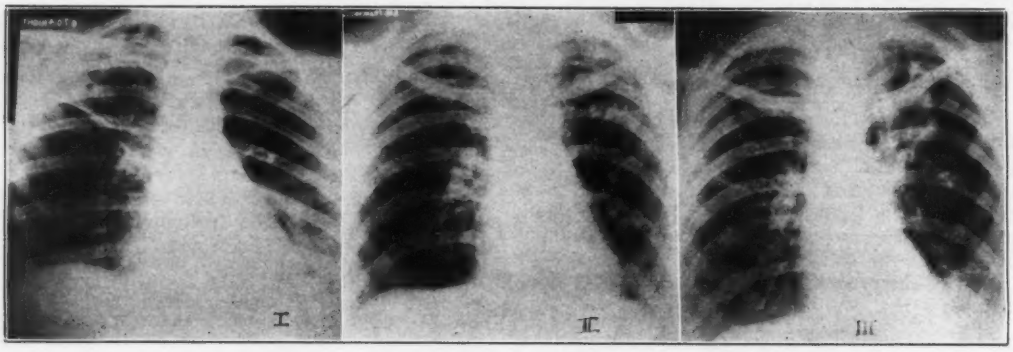
These types may often be made out quite easily in individual foci. In a lung which may contain any number of foci the problem is infinitely more complex. A lung containing typical, apparently arrested productive foci, may harbor one or more areas of tuberculous pneumonia—exudative foci. Exudative foci may gradually become fibrous. Various combinations of the above factors may produce an almost infinitely complex picture in which no predominant character remains. The amount and virulence of the infecting agent, the manner of spread, the local and general, and the inherited and acquired resistance all unite to vary the reaction. The latter remains simple, in direct proportion to the predominance of one or more of the above factors, acting over a longer or shorter period of time.

DIFFERENTIATION

The onset of the exudative type of pulmonary tuberculosis is usually stormy, and the intensity is determined largely by the area or areas involved. There is usually a well-marked p. m. temperature. The onset of the productive type, however, is more apt to be insidious and there may be little or no elevation of temperature.

The striking points of difference (points of extent, not intensity) on physical examination are the circumscribed signs in relation to the marked symptoms in the exudative form, as compared to extensive physical signs accompanied by comparatively few symptoms in the productive form. Rales are a valuable indication; when present they are very moist in the exudative type and are usually abundant over the involved area. Indeed, if physical signs are present at all in the exudative type, they are usually quite definite, intense, and sharply circumscribed.

The course of the exudative type when retrogressing is often surprisingly uneventful. The temperature may fall rapidly, soon the pulse may be normal, and the weight excellent. Cough and expectoration are in direct relation to the amount of tissue destruction. If retrogression does not occur, the course is generally as stormy as the onset. The temperature shows a well-marked p. m. rise, the pulse is



Productive type

Exudative type

Same case as shown in Plate II, six months later. Note resolution in right upper.

rapid, and the usual symptoms of pronounced toxemia are in evidence. Sudden sharp but transient elevations of temperature in a patient whose course otherwise is satisfactory usually mean slight fresh areas of invasion.

The course of the productive type if retrogression occurs is, as one might expect from the pathology, marked by a slower fall in temperature and pulse, with occasional subsequent elevations. These are usually slight and do not necessarily mean the invasion of sound tissue. Progression is evidenced by the usual symptoms of toxemia gradually increasing.

The differential evidence furnished by the roentgenogram is of the utmost importance, provided the plates or films are technically good. The early exudative lesion, involving, as it usually does, one or more lobules is somewhat larger than the early productive focus (really a collection of foci) and, because of its almost liquid or semi-solid character imperceptibly blends into the surrounding normal lung tissue or with another focus. The center of each focus is, of course, thickest and casts the heaviest shadow. Since this fades out gradually toward the periphery, a large number of such foci form a collection of soft more or less blended shadows of extremely poor definition. Massive reactions may occupy one or more entire lobes. Caseation naturally accentuates, and excavation lightens the shadows. The productive foci are more sharply defined than the exudative; they are more strikingly set off from the surrounding normal lung tissue, and though they may be of many sizes they do not blend so nicely. They are often nodular or linear.

During the progress of the case the roentgenogram manifests striking changes. In the exudative form, resolution is evident from the total disappearance of the foci. Caseation, by an accentuation of the central portion of the shadow, which may become divisible into two components, the inner caseous mass and the outer granulations. In the productive type, as retrogression occurs, there may be a general hardening of the shadows, although since the central portions may caseate or simply become firmer through fibrosis, it is impossible to differentiate the latter change through the roentgenogram.

Finally, the fact should be stressed that all available means of differentiation should be employed in classifying individual cases, and in the application of this classification to treatment.

TREATMENT

Local and general rest, taken as far as possible in the open air, with a high-caloric diet, forms the foundation of all pulmonary tuberculosis therapy. Exercise is rest in its negative phase—it is merely the withdrawal of an equivalent amount of inactivity. These principles in the treatment of pulmonary tuberculosis are primary; all others are secondary. It remains to be seen whether the differentiation of types may not be useful in the application of rest.

As generally employed, bed rest ceases a few days or a few weeks after the pulse and temperature have become normal, depending upon the extent or intensity of involvement and the clinical judgment of the physician in charge. The latter may be a radical or a conservative, although it should be said that the conservatives are generally the more successful in the handling of this disease. Nevertheless, keeping a patient in bed indefinitely because of fear of a relapse is certainly not justified.

In consideration of types and the application of treatment to them, two fundamental principles should be borne in mind: First, that resolution is favored by rest; and second, that fibrosis or scarring is facilitated by gentle movement.

The exudative type of lesion is the typical inflammatory type of reaction in the lung. More or less resolution is to be expected. Restitutio ad integram is only possible through resolution. Hence, resolution, as complete as possible, should be our aim in dealing with this type of lesion. Thus, rest should be made as absolute as practicable until that amount of resolution which will occur with any degree of rapidity has taken place. This is best learned by means of frequent rentgenograms, taken monthly if possible.

A consideration of the pathology of the disease has shown that these changes should take place quite rapidly in either direction. For this reason rest is still more essential in this type of case, since any movement favors extension of the semi-liquid alveolar contents and spread of the disease.

With the productive type the situation is somewhat different. After the symptoms of toxemia have disappeared it must be assumed the foci are

no longer throwing toxic products into the circulation. Scarring should be in progress. Nevertheless, retrogressive changes must be expected to occur slowly, and complete restitutio ad integram is known to be impossible. At this stage the benefit of motion lies in its stimulus to scarring, and the danger in the fact that it may disrupt the delicate walls of granulation tissue and thus produce new foci. Except in pneumothorax, and usually not even then, all motion is not inhibited. The normal respiratory movements never cease, and in the average case furnish the ideal stimulus to this type of lesion. Under the influence of gentle exercise, such as slow walking, the effect is enhanced and retrogressive changes further favored, provided always that no symptoms of toxemia be present.

The dangerous type of movements are those sudden distorting efforts, such as violent coughing, lifting objects, and straining at stool. Many a patient owes his unsatisfactory condition to uncontrollable coughing, which may account for repeated extensions, and even be an indication for pneumothorax.

In view of these facts, it seems highly desirable to attempt to determine the predominant characteristic in cases of pulmonary tuberculosis, if this be possible. Rest and exercise may then be used, with their effect upon the pathological condition in mind. It is true that there are many other factors involved, such as auto-tuberculinization and a host of others, but they will be found to conflict in no way with the fundamental principles involved.

It will be noted that the chief difference in treatment of the two types is one of time. Graduated exercise is employed in both—earlier in the productive than the exudative type. Moreover, it is believed that the pathological changes in the exudative type, as recognized by frequent stereoroentgenograms, should be one of the chief factors in allowing tuberculous patients exercise, or in prolonging bed rest beyond the time when a consideration of symptoms alone would suggest that it might be abandoned.

The employment of secondary measures has purposely been ignored as outside the scope of this paper. It should be mentioned in passing, however, that tuberculin (as the term is ordinarily understood) should never be used in the exudative type of pulmonary tuberculosis for reasons which should be sufficiently obvious.

Small photographs of roentgen films of the chest are generally unsatisfactory. Nevertheless, three are herewith presented, in the hope that they may illustrate to some extent the foregoing discussion. Plate 1 shows the productive type of lesion, involving chiefly the right upper and the left lower lobes. There is a good deal of pleural thickening on the right. Plate 2 shows the exudative type of lesion, involving chiefly the left upper and the right upper lobes. There are several cavities in the left upper. The apparent annular shadow in the right upper is an artifact, due to the configuration of the exudative foci. Plate 3 shows the same exudative case six months later. A partial pneumothorax has been induced on the left, in the hope of obliterating the cavities, an end which was later accomplished, in spite of the adhesions which are seen in this film. Note particularly the complete disappearance of many of the exudative foci in the right upper.

380 Post Street.

DISCUSSION

CHESLEY BUSH, M. D. (Livermore, California)—Doctor Shipman has made a very timely exposition of the exudative and proliferative types of lung tuberculosis. As he states, the two types are usually mixed, but where one type predominates recognition of the type assists in treatment. In fact, those who have had long experience in the handling of tuberculosis have unconsciously grouped their paitents in just this way.

That tuberculosis apparently can heal by resolution is one of the outstanding facts brought to us since we have been checking our cases with continued use of roentgenograms. This has been brought to our attention rather startlingly at Arroyo. We have seen it in both adults and children. Anatomically, the resolution may not be perfect, but the clearing of lung tissue is striking. The old dictum "that a tuberculosis of the lung, once showing on an x-ray plate always shows" is no longer true. When a patient comes to us now with the history of having had, years ago, rales in a lung, and of having had at that time a diagnosis of tuberculosis, we no longer doubt the ability of the former diagnostician when a physical and x-ray examination fail to reveal anything.

We have been telling patients for years that the sickest individual often makes the quickest recovery, quicker than one with slight clinical symptoms. We have seen this happen again and again. It is the exudative case versus the proliferative case.

There is no doubt in our mind that many cases of the exudative type can be turned into cases of the proliferative type by careful treatment. This may explain the fact brought out by young Trudeau in his study of cases at Saranac Lake that many patients have an increase of rales with clinical improvement.

The time to begin exercise with any patient calls for the nicest discrimination and judgment on the part of the physician. While productive type cases may begin exercise with less danger, it is always well to emphasize the fact that the supervising medical man must be mighty sure of his classification, and then always to make the error on the safe side—that of continuing rest too long.

LEWIS SAYRE MACE, M. D. (240 Stockton Street, San Francisco)—Doctor Shipman has done well to remind us that a knowledge of prognosis is necessary before prescribing treatment. The diagnosis of tuberculosis is easy—much easier than prognosis, since for prognosis one must be able to differentiate between the many types of disease which may be present.

The individual resistance I believe to be the most important factor, though it must be remembered that the virulence of the particular strain, as well as the dosage or amount of infection, are also variables which must be considered. With three variable factors in every case of infection, it is evident that there are many different types to be considered from the standpoint of prognosis and treatment, and that a diagnosis of tuberculosis, instead of being the end, is really the beginning of the task.

In our present state of knowledge I believe that more harm is done by failure to recognize the type of disease the patient is suffering from than from a failure to make a correct diagnosis. It is a very frequent experience to see someone with a rapidly progressing, virulent type of tuberculosis in which recovery is out of the question condemned to leave a comfortable home and the loving care of relatives, in the hope that a distant climate and strange regime will accomplish the impossible.

From an anatomical standpoint, the recognition of type is very difficult, for, as Shipman states, many kinds of pathology are present in each case.

It will be much easier, I believe, for the physician to approach the question of prognosis and treatment from the standpoint of the resistance of the patient and the virulence of the infection than to attempt to recognize various so-called stages of the disease or differences based on anatomical pathology.

J. TRACY MELVIN, M. D. (Porterville, California)—We are under obligations to Doctor Shipman for one of the

clearest and most condensed portrayals of the pathological changes which occur in a tubercular lung which has appeared for a long time. He has made very definite the picture upon which practitioners must base their diagnosis, their prognosis and, to some extent, their treatment.

He shows the problems to be very different from the conceptions of some years ago, when we only had to consider if the patient was or was not actively tubercular.

The point for reiterated emphasis is, that the clearer and more accurately we visualize the pathology of a given case, the more rational and successful our treatment may be; realizing the constantly changing and infinitely complex variations of type which each patient may manifest during the various periods of the history. Here, too, looking backward, we find reasons for many of our unexpected results from climatic treatment years ago.

Among the thousands of actively advanced tubercular patients who came out to Colorado and the Southwest some thirty or forty years ago, a very definite proportion would stage complete and permanent recovery under our advice to "get out and rough it"; and we paid but little attention to those whose downward progress must have been accelerated by this advice. We did not at that time distinguish between those types where the exudative processes were the dominant factor, for whom absolute rest might be the only possible chance for an arrest, and that other class where the proliferative changes had slowly proceeded and who were able, under the stimulation of a new and favorable environment, to stimulate this process to such an extent that a further fibrosis progressively ensued to a symptomatic recovery.

Has not the tendency recently been to place too much reliance on the postulate of continuous rest, long continued, regardless of type, when our older experience showed us clearly that there is a type and stage which needs the stimulation of definite exercise to make the best improvement possible in a given time?

RALPH L. BYRNES, M. D. (1501 South Figueroa Street, Los Angeles)—Doctor Shipman's paper differentiating the exudative and the proliferative types of tuberculosis is indeed well presented. He has by no means attempted the discussion of the blending of these types, but has stressed the differential pathology of each type of infection. The methods of treatment and the reasons for that particular treatment in each type of case are substantiated. He has spoken of the early resolution with recovery similar to a recovery from pneumonia (coccus infection). One such case came to my attention recently. This young woman (21 years of age) had a typical exudative type of tuberculosis of the right upper and upper portions of the middle lobes which cleared in less than two months' time; however, after taking a very bad cold the pathological and clinical findings were approximately those of the first examination. The lung is again clearing, as in the first instance.

As has been mentioned in the discussion, the earliest form of treatment of tuberculosis by exercise was probably, in part, founded upon the successful results of the exudative type of infection, but the earliest exponent of the exercise theory, Brehmer, considered the small heart as a predisposing factor; therefore, to obviate the cardiac handicap he prescribed graduated exercise. Rest treatment came as a gradual development, based upon observation; and, as the knowledge of tuberculosis increases and further differentiation in type is made, the individual treatment will become more specific, as Dr. Shipman has so capably pointed out.

"The skilful in medicine," wrote Dr. William Cadogan, two hundred odd years ago, "and learned in nature, know well that health is not to be established by: medicine; for its effects are but momentary, and the frequent repetition of it destructive to the strongest frames; that if it is to be restored, it must be by gently calling forth the powers of the body to act for themselves, introducing gradually a little more and more activity, chosen diet, and, above all, peace of mind, changing entirely that course of life which first brought on the disease: medicine co-operating a little."

Compare that with displayed "news" and "new discoveries" of today, and we get an interesting line on human progress.

SPEECH DEFECTS AND DISORDERS

By MABEL FARRINGTON GIFFORD, *San Francisco*

DISCUSSION

SPEECH defects and disorders up to the present time have suffered much from misunderstanding and neglect; in fact, from a misapprehension and lack of differentiation between the nervous speech disorders and the purely physiological speech disorders, much positive harm has been done.

At present there seems to be an awakening realization of this big problem, as evidenced by the fact that a number of the larger cities in the United States have inaugurated a speech correction department into their public school system. In 1916 San Francisco started its speech correction department under the guidance of Mrs. Mabel Farrington Gifford, and today its ninety-six public schools each have their daily speech drill period in segregated groups for stutterers and for articulation and foreign mispronunciation cases. A free speech clinic, too, is maintained by the University of California Medical School once a week on Saturday mornings, to which are referred any persons who come under observation in the hospital, as well as obstinate cases from the schools.

DEFINITION

Speech defects must be classified into two groups—the nervous speech disorders and the articulation defects.

Under nervous speech disorders come (1) stuttering, (2) stammering, (3) cluttering, (4) nervous hesitation. Stuttering and stammering are spasmodic actions of the speech muscles, which manifest themselves visibly or audibly in varying degrees. Stuttering, as understood in the United States, is a rapid repetition of the initial sounds of words, i. e., "K-K-K-Katie." Stammering is illustrated by the phrase, "I c——an." For the sake of simplicity, and because in Europe stammering is differently defined (namely, as an articulation defect) we shall use the term *stuttering* only to represent either form, as illustrated. Cluttering is the slurring over or omission of certain parts of words as the result of rapid, choppy utterance. Nervous hesitation is agitated, faltering speech.

Under articulation defects we have lisping, substitutions of sounds, infantile speech, the unformed speech resulting from cleft-palate defects, and foreign mispronunciation. These articulation defects may be traced to hare-lip, feeble or very short upper lip, overshot jaw, narrow palate, sluggish palate, cleft palate in varying degrees, nasal obstructions, tongue-tie, or very irregular teeth. Lisping of the sounds s-z-sh-zh-ch-j is caused by a protrusion of the tongue and substitution of the *th* sound. Substitution of sounds is illustrated by the saying of *tan* for *can* or *Sharlie* for *Charlie*. Infantile speech is baby-talk which the child has never outgrown. Cleft palate has, of course, a mechanical cause, and is the result of sound rushing from the nose. Foreign mispronunciation is mainly due to the fact that foreign national speech habits are different from our own, and each nationality has its own difficulties to overcome in the learning of English. The Spanish, for

instance, use their lips very energetically and their tongues rather sluggishly. This is the reverse of the English manner of speaking, and the Spanish, in order to enunciate English correctly, must have their attention called to these facts, and must then practice assiduously.

HISTORY

The nervous speech disorders, at present looked upon as psychic manifestations and not at all as physiological or mechanical disturbances, have a history, which, due to the fact that much human mental suffering has been left unalleviated for so many years, is tragic in its fruitlessness. Mr. Alfred Appelt, in his book entitled "Stammering and Its Permanent Cure," has given a very complete outline of the history of stuttering. For the purposes of this article we shall but touch upon the main points.

Many cases of stuttering are noted in ancient history. From 1716, at which date we find the first active medical investigations into the subject, until the beginning of the twentieth century, we find stuttering attributed progressively to unsoundness of the muscles of the speech organs; to weakness of the soft palate, uvula, and root of the tongue, and immobility consequent upon such conditions; to abnormal formations of the tongue (to be cured by operation); to malformations of the tonsils and uvula; to incorrect respiration, spasm of all the organs involved in the formation of sounds and syllables, spasm of the respiratory organs, spasms of the glottis which then impart themselves to the muscles of the tongue, face and throat, spasms of the articulatory muscles; and to tetanus of the muscles connected with respiration and voice production.

When, after years, these conceptions of purely physical causes were recognized as false, the function of the brain began to be considered as part of the problem. It was thought that a disproportion between cerebral influence and spinal action might cause the trouble. In 1866 its primary cause was placed entirely in the psychic sphere—that of the will. Later still, it was considered caused by an abnormal working of the central nervous apparatus, lack of confidence and control; then as a psychoneurosis based on a debility of the nerves involved in the action of speech in which each paroxysm of stuttering is induced by psychic stimuli; and finally as a purely psychic ailment, in the center of which stands "dread of speaking." The view which placed the cause of the impediment in the organs of speech themselves may now be looked upon as definitely abandoned.

Cures for all of these supposed causes were attempted. Among them were change of climate, change of diet, avoidance of alcoholic drinks, administration of purgatives, the use of honey, salt and sage. Operations then became the vogue, particularly the cutting of the root of the tongue, which in some instances ended fatally, and in every instance proved to be unjustifiable. Later came didactic or pedagogic methods aiming, by means of instructions and exercises, to recover the control over the organs of speech. There were time-beating methods, vocal exercises, reading exercises, breathing, intonation. These artificial means proved of help for a time, but were not lasting in their effects. Next the use of electricity was tried, along with certain medicines and cool demi-baths to attack the abnormal innervation which was considered the cause of the trouble. The duration of this treatment was about 140 days, and statements as to its permanent cures and lasting improvements are rather conflicting.

The application of medicine was never successful. Electric treatment as well was futile, and operations were little short of criminal. Because medical men were unsuccessful in their attempts to cure, the work was gradually taken up by non-medical men, many of them charlatans with no education, experience, or insight into the nature of stuttering.

Up to the end of the last century there were no further developments in treatment than those already mentioned, and in the light of present knowledge the tendency is to reject all tiresome exercises which aim at a systematic training of the organs of speech, since these have shown themselves to be superfluous.

Out of the turmoil of opinion and theory the fact has gradually become established that stuttering is a nervous speech disorder, psychologic in origin, and the spasmodic manifestations are only the external effect of deep-seated emotional conflicts. It has been definitely established that severe shocks and emotional conflicts occurring in very early childhood, usually entirely unknown to the parents, and, of course, uncomprehended by the child, remain as subconscious memories for many years, and may continue to disturb the speech function, which in itself is perfect, until such time as corrective measures are applied. It is safe to assume that a predisposing cause is present in stutterers; in other words, that their nervous systems, and particularly their motor speech centers are weaker than those of normal individuals. Nearly every child in its very early years goes through emotional experiences and shocks or frights, but fortunately not every child is afflicted with a nervous system so unstable that its speech is affected.

It is not far-fetched, this theory of the psychic origin of stuttering and hesitant speech, when we consider that even normal speech may reflect a momentary emotional state of mind. We know that embarrassment causes a hesitating reluctant speech, excitement an increase in the tempo, anger an incoherency, joy a buoyancy of speech readily observed and never mistaken. Under certain conditions the stutterer is worse; strangeness and excitement usually aggravate the disorder, quiet home influences and regularity tend to lessen it, and every stutterer has days in which he goes along so smoothly that he cannot believe his own ears—proof conclusive, of course, of the fact that there is nothing whatever wrong with his speech mechanism.

TREATMENT

Treatment for the nervous speech disorders is a combination of physiological speech drills; that is, a co-ordination of the breathing voice and articulatory muscles, with an emotional adjustment brought about through practice in building up the ideas of poise and firm control. Part of the process is that of changing the old association of ideas and substituting constructive thought habits. To accomplish

this end, suggestion and auto-suggestion is used. While certain phases of this re-education are comparatively new, so much improvement has been made in a psychologic way that we feel we are nearer to the solution of the problem than ever before. The talk of many former stutterers treated in this manner bears witness to the fact of their very great improvement, and, in many cases, of their cure.

Treatment for articulation cases is mechanical, as follows:

Harelip—Operation first, and later the attempt to make the upper lip more flexible through exercises.

Feeble or Short Upper Lip—Lip gymnastics and the attempt to increase control.

Overshot Jaw — Gymnastics for the lips and tongue until the proper occlusions can be easily made.

Narrow Palate—Training of the tongue to find the positions which will bring the correct sounds.

Sluggish Palate—Palate exercises and exercises for producing resonance.

Cleft Palate—Where there has been no operation, the fitting of a plate with a false soft palate into the patient's mouth offers far greater possibilities for normal speech upon proper speech instruction than does an operated case. This is because the muscles on each side of the cleft adjust themselves to the soft palate and help produce a normal voice. In many cases of surgery there is not sufficient tissue to allow for the stretching upward and backward, which is necessary for closing off the naso-pharynx, and in spite of speech re-education the speech remains poor.

Nasal Obstructions—Exercises or operation, depending upon the nature of the obstruction.

Tongue-tie — Surgery, and a few gymnastics of the tongue to make it flexible.

Very irregular teeth, from which may arise either substitution of sounds or lisping from malocclusion. This condition calls for straightening of the teeth by an orthodontist, and enunciation exercises.

210 Post Street.

Health in Relation to Citizenship in Urban and in Rural Communities—John A. Ferrell, New York (Journal A. M. A.), summarizes his paper as follows: Public health is one of the major community interests. Community funds wisely used for health service yield large returns. The scope of the health service will vary with problems, resources and the public conscience, but in all cases should include basic activities. In the interest of economy and efficiency, the political unit should be large enough to permit the employment of a well-rounded unit of trained full-time personnel. The cost of the service should be assumed jointly by the state, county, and towns on an equitable basis. The rural community is economically handicapped, so that unaided it cannot finance health and other services approaching in adequacy that of urban communities. It is being abandoned to an alarming degree. The urban community cannot enjoy its present prosperity and civic advantages indefinitely unless its outlying country which furnishes foods, raw materials and markets is afforded similar advantages. The urban and rural communities have a common interest in the equalization of taxation and also of facilities for health and for educational, social and economic welfare. This should be accomplished through the larger political unit, such as the state. Experience in this direction has been encouraging. The plan should be extended.

Clinical Notes and Case Reports

DIAGNOSIS OF ABSENT URETERAL CALCULUS

REPORT OF A CASE

By EDWARD S. POMEROY, M. D., *Salt Lake City*

Correlation between the roentgen ray, the cystoscope, and the history with symptoms of a case may well illustrate how a condition which has been present and has corrected itself may be demonstrated.

On August 10, Mrs. X. applied to the Salt Lake County Hospital for relief from urgent, severe abdominal pains. She was admitted, and because of severe tenderness over the left kidney region, together with painful urinary symptoms, it was requested by the surgeon who examined her that she be cystoscoped. This was done at once, without going further into the history of the case. The bladder wall appeared normal, except, as seen through the cystoscope, the left ureteral orifice was large, and appeared to have been torn, and was pouting, patulous and inflamed. This ureter admitted a No. 6 ureteral catheter with no difficulty, which passed readily without the slightest suggestion of any obstruction up to the renal pelvis. Ten cubic centimeters of a 25 per cent solution of sodium bromide were injected carefully into the renal pelvis, and a pyelogram was made.

A study of the pyelogram showed nothing abnormal with the calyces, but the pelvis of the kidney was moderately dilated, and the ureter was dilated all along its course from the pelvis downward to the bladder wall to the size of about fifteen millimeters diameter.

Only three possibilities as to the etiology of such a dilatation presented themselves for consideration: (1) Ureteral stricture; (2) nerve lesion; (3) calculus.

The first could be eliminated from consideration because of the extreme readiness with which the large catheter passed through; no nerve lesion need be considered, as was shown by a physical examination and history at this time. The cystoscopic picture suggested that something had been forcibly expelled through the ureteral orifice, and that something is usually a stone.

Subsequent cross-examination of the patient brought forth the information that she had felt something pass from her bladder when she had urinated just prior to the cystoscopy. She was kept in the hospital several days, all kidney tenderness quickly subsided, and the patient had no further trouble.

315 Judge Building.

TRANSFUSION WITH UNIVERSAL DONOR A FATALITY

H. E. BUTKA, M. D., *Los Angeles*

The occurrence of reactions, ranging from mild to severe, following transfusions are of occasional occurrence. Type IV donors are frequently used where speed is essential and where typing of patient involves loss of time or is technically difficult. Reactions following use of universal donors, with recipient belonging to another group, are somewhat more frequent than when the same group is used. Fatalities, however, are rare indeed.

Report of Case—Mrs. L. B. Age 54. First consulted her present physician August 30, 1925, at which time she was so weak it was impossible for her to get up and about. Entered hospital September 3, 1925. Remained quiet for two weeks, during which time daily injections of iron cacodylate and other remedies to increase hemoglobin were given.

Patient's present condition developed rather gradually until within a short time of her entrance. Her hemoglobin was recorded as 35 per cent, method not stated. Two million one hundred thousand red cells were present.

Physical examination revealed a small uterine fibroid, the probable cause of her continued uterine bleeding.

On September 17 I was requested to give her a transfusion. Patient's physician volunteered to give the blood. He belonged to Type IV—Moss grouping, and has been used by me several times before, both for Type IV patients and others. Patient was not typed.

Due to condition of veins at elbow (thickening of walls and fibrosis, with some thrombosis), it was necessary to cut down on patient's veins. Multiple syringe method was used. Patient complained slightly after three or four syringes of blood were transferred, but the alarming symptoms immediately cleared up, with the exception of a tired feeling. At the conclusion of transfusion a very extensive rash developed over the lower extremities, thighs and back, up to the shoulders. This was of urticarial type and responded fairly well to injections of adrenalin. During the next three days, hemorrhages occurred from the wound in the arm, from the uterus, bladder, stomach, and bowels. Very severe jaundice developed. Patient vomited all food and fluid. Blood count on September 21, four days following the transfusion, revealed a hemoglobin of 30 per cent, with a red cell count of 2,500,000, the leucocyte count being 22,000 cells. Patient continued to grow worse and died September 23, six days after transfusion.

Comment—I am at a loss to account for the reaction in this patient. The blood count of 2,500,000, following the transfusion, would indicate that not all of the blood injected was destroyed. However, we have no other logical reasons for the patient's death, except that she had been failing rapidly during the few weeks prior to her entrance into the hospital. In this case we stopped the transfusion when symptoms began and until they disappeared, then proceeded with caution. The occasional occurrence, however, of a reaction of this kind would indicate the necessity of caution, and the cross-agglutination of the patient's and donor's blood when possible.

PRIMARY CARCINOMA OF THE LIVER: REPORT OF TWO CASES

By ROBERT WILLIAM LANGLEY, M. D., *Los Angeles*
(From the Medical Department, Los Angeles General Hospital, and the Selwyn Graves Memorial Dispensary)

[*Note—As originally submitted, this report was drawn upon a larger scale and executed in for greater detail. Not having space for it thus, at our suggestion Doctor Langley submitted the following briefer discussion of his subject. If any essential data are omitted from this abstract, the author will be glad to furnish them to any interested reader.*—EDITOR.]

The following cases are submitted because of the presence of several unusual findings. Both were patients at the Los Angeles General Hospital. The first was under my observation for some time before entering the hospital, and the other is submitted through the kindness of J. F. Percy:

Mrs. L. W. Age 26½, white, American, who was referred August 11, 1924. Chief complaint swelling in the upper abdomen, moderate loss of weight, weakness and soreness in the abdomen. History of complaint: Three and one-half years ago the patient complained of pain in the upper abdomen on the right side, and went to a doctor who operated on the suspicion of gall-bladder trouble. The patient states that the doctor who operated removed the appendix and said that she had a cancer of the liver. No other work was done at this operation. X-ray treatments were advised and started at this time, and continued every twenty-one days for six months. Not much improvement was observed under these treatments, but since that time the patient has been enjoying good health. The tumor has been present constantly, and during the last six weeks moderate pain and tenderness have been present. Patient is slightly nauseated after eating. Seventeen pounds loss of weight has been noticed during the last three months. Past complaints: No serious illnesses in the past history, and the only operation is that mentioned above.

Family History—Father and mother living, and well. No history of tuberculosis, cancer or other serious illness in the family. Married seven years, has one healthy child 6 years old. No other pregnancies. Menses regularly. Venereal disease denied. Regional history reveals nothing of importance. The physical examination is unimportant, except for the following:

Abdomen—Old, healed, right rectus scar. A tumor mass is felt in the right hypochondrium which is distinctly nodular, and extends 9 cm. below the right costal border, apparently fixed in position, and appears to be associated with the liver. One nodule extends 2 cm. to the left of the midline. The spleen is not palpable, and no other tumor masses are felt in the abdomen.

Vaginal Examination—Uterus slightly retroverted, tubes and ovaries not felt. Laboratory examination: Urine, sp. gr., 1018. Reaction acid, albumen one plus, sugar negative, microscopic negative. Blood and spinal Wassermann negative. Hemaglobin, 55 per cent; w. b. c., 7300. Differential normal. Feces: No blood, mucus, parasites, or ova seen.

Complete x-ray examinations of the chest and gastro-intestinal tract reveal the following important details: The stomach is moderate in size, with its lesser curvature above the level of the iliac crest. It is displaced greatly to the left and downward. It appears to be regular in outline and without filling defect. The cap opens immediately, and there is shown a well-filled regular duodenal cap. Other observations are irrelevant.

After the above work was completed the patient was advised to enter the hospital for further study, and was admitted to the Los Angeles General Hospital August 16, 1924, where the above work was repeated and the findings confirmed. Additional blood Wassermann, spinal Wassermann, and blood chemistry tests were made at the hospital, all with negative findings.

PROGRESS NOTES

August 23—Patient placed on iodides and mercury, which were not well tolerated. Referred to the Malignancy Board for advice as to deep x-ray therapy. *August 28*—Patient has developed jaundice. Weight, 98 pounds. Placed on a forced-feeding diet. Urine shows traces of bile, albumen, and one plus diactetic acid. *September 18*—Jaundice increased. Patient's weight, 97½ pounds. Deep x-ray therapy advised. Temperature, 100 daily. *November 1*—Received four hours x-ray over the liver. *November 14*—Feels somewhat better. Temperature 99 daily. Urine bile three plus. Albumen one plus. *December 12*—Discharged from hospital feeling fairly comfortable, to return later for additional x-ray treatments. *January 24, 1925*—Patient re-entered hospital. Temperature 104, pulse 110. Moderate ascites present. No edema of extremities. Two thousand six hundred cc. yellow fluid withdrawn from the abdomen. Examination shows fluid to contain a few red blood cells, occasionally lymphocytes and endothelial cells seen. Culture sterile. Patient has a moderate cough, and examination reveals a few moist rales at the base of both lungs. No evidence of consolidation found. Jaundice has increased slightly since the patient left the hospital in December. Tumor mass apparently not increased. Tenderness not increased. Urine bile 2 plus, albumen 3 plus.

During the following month, abdominal paracentesis was done three times, about 7000 cc. being withdrawn each time. On February 25 the patient was sent home in the ambulance. Death occurred on March 8.

An autopsy was performed by Clayton R. Johnson on March 8, and the following is an abstract of his positive findings:

Anatomical Findings—Neoplasm, primarily in the liver carcinomatosis of the peritoneum; ascites; metastatic neoplasm of both lungs; hypostatic congestion of both lungs. Probable cause of death: Carcinoma of the liver.

At the suggestion, and through the kindness of J. F. Percy, I report also the following case:

Mrs. M. O. Age 21, white, entered the hospital December 3, 1923, on the surgical service of Dr. Percy.

Present Complaint—Swelling in the upper abdomen, anorexia, vomiting, and pain in the abdomen. History

Fig. 1. Inferior surface of the liver showing the gall-bladder dislocated by the tumor mass. Case 1.

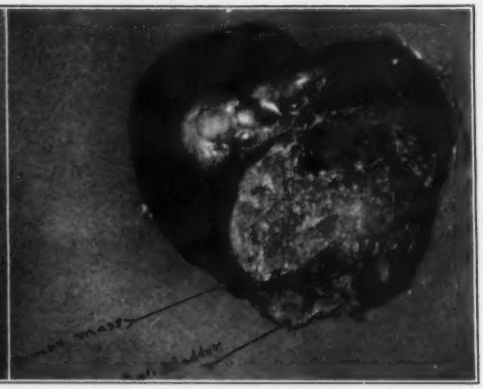


Fig. 2. Section through liver showing tumor mass. Case 1.

of complaint: Patient first noticed the tumor six months ago, while carrying a child. The tumor was in the upper part of the abdomen and was not painful at that time. After four months she went through a normal pregnancy, and since then (two months) the tumor has grown quite rapidly. At present there is moderate pain about the upper abdomen. Nausea and vomiting have been present during the last few days only, and is increased on the taking of food. Loss of weight has not been particularly noticeable. Appetite has been fair until the last few days. Bowels regular. No urinary disturbance. Past illnesses: Appendicitis four years ago. No other serious illnesses. Marital: Married four years; two children living and well. No other pregnancies. Menses always regular; no dysmenorrhea. Last period two weeks ago. Family history: Mother and father living and well. No history of cancer or other chronic disease in family.

Physical Examination—Reveals nothing of importance except: Abdomen—A large palpable mass occupies the epigastrium, and extends from the costal margin to the umbilicus and laterally to each nipple line. It is firm, hard, definitely nodular, and somewhat movable. Manipulation causes the patient some pain, which she describes as a pulling sensation. No other tumor masses are felt. Laboratory findings are without importance.

December 4, 1923, the patient was operated upon by Percy, who made an upper right rectus incision. The following is taken from his operative record: "The left lobe of the liver is involved in a firm lobulated mass of coalesced tumors of yellow, partly necrotic masses, the size of chestnuts. The general mass is roughly 20 cm. in diameter. The head of the pancreas is enlarged, hard and fixed. One nodule 1 cm. in diameter is found in the omentum. Recent soft blood clots are found free in the abdomen. A section was removed from the mass in the liver and the mass in the omentum by means of the cautery. The liver mass was brought out through the incision and the incision closed in layers, leaving the liver mass outside of the abdomen.

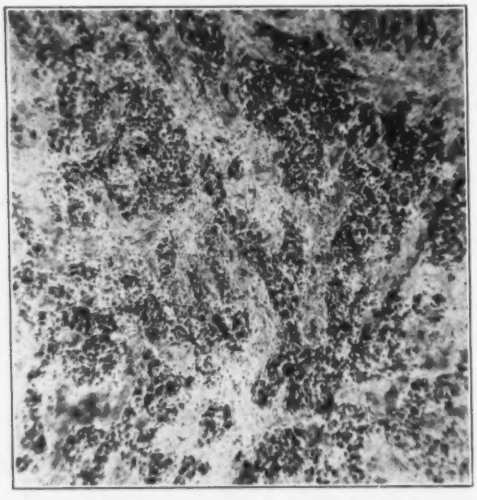


Fig. 3. Microscopic section showing tumor mass. Case 1.

Laboratory report of the specimens submitted is as follows: The specimen consists of an irregular oval-shaped piece of tissue measuring 4 x 3 cm., the surface of which is greatly charred. It is moderately firm, and on section shows a small amount of what appears to be liver tissue almost entirely replaced by homogeneous gray, slightly opaque tumor nodules in the form of lobules which are fairly well circumscribed.

Microscopic Diagnosis—Carcinoma of the liver.

After operation the patient began to fail rapidly, and died December 16, 1923.

DISCUSSION

The diagnosis of primary carcinoma of the liver is made essentially by exclusion. The history, symptoms, physical findings, must be of such a nature as to exclude the more common diseases, such as tuberculosis, syphilis, hydated cyst, chronic gall-bladder infections and diseases, giving rise to secondary changes in the liver. All cases of liver diseases in which an hypertrophy or hyperplasia is a predominating feature must of necessity have many symptoms in common, namely, obstructive symptoms, giving rise to jaundice, ascites, localized pain, tenderness. The differential points must be found elsewhere and may depend on the history, degree of chronicity, effect upon the nutrition character of the tumor mass, whether smooth or nodular, effect upon other organs, such as enlargement of the spleen, effect upon the blood picture, reaction to therapeutic tests.

The occurrence of primary carcinoma of the liver is not common. It is particularly uncommon in patients under 40 years of age. More unusual, still, are we able to elicit a history of this condition extending over a long period. One of these patients lived three years and four months after the condition was recognized at operation. The surgeon felt reasonably certain that the patient had a cancer, and he writes as follows: "I do not remember whether I removed the appendix or not, but I do remember that there were a great many nodules on the liver. It looked very suspicious of being malignant." (Operation November 17, 1921.)

The first patient here described lived less than twelve weeks from the onset of the ascites. The persistent and thorough treatment by deep x-ray for six months following the operation was undoubtedly the factor in checking the growth of the tumor and in prolonging the life of the patient in Case No. 1.

SUMMARY

While primary carcinoma of the liver is a rare clinical entity, still its occurrence should be suspected even in the young. Post-mortem examinations should always be made in cases of liver enlargement where the cause is the least obscure.

EDITORIALS

NARCOTIC LAWS AND PHYSICIANS

National and state narcotic laws are being enforced with such superlative stupidity that the honest practice of honest scientific medicine by honest, adequately educated physicians is becoming increasingly more hazardous.

Medical opinion is practically unanimous in this conclusion, and what is more important, doctors everywhere are becoming restive under the autocratic rules of tax collectors as to what a doctor may do for his patients. The intelligent element of the voting public is securing some effective but tardy "education," which may in the course of time produce effective results.

Since the decision of the Supreme Court that our chief narcotic law is—as the doctors always have claimed it to be—purely a revenue measure, sane people in all walks of life are waking up to the surprising fact that we are trying to regulate a health problem by money-getting laws administered by money getters for moneyed reasons. People at last are beginning to realize, as one prominent non-medical citizen recently said, that our government is making huge profits out of a vice.

Laws, rules and regulations are now so numerous that an honest, conscientious doctor often must choose between his duty to his patient and the possible consequences of the law. This to such an extent that many doctors refuse to take chances with tax collectors, under-cover agents and what-not, by doing for sick people what scientific medicine endorses as the best treatment. Few doctors can carry in their minds the numerous things laws and painfully numerous bureaucratic regulations require of them every time they give or prescribe a dose of narcotic drugs.

One of the most illuminating analyses and digests we have seen of the Federal narcotic laws has been recently published—with their endorsement—by the Los Angeles County Medical Association. Every doctor ought to have a copy of this 45-page booklet on his desk, and he ought to study it. In order to pay part of the expense of publication, a price of 25 cents is charged, and the book may be obtained from the Los Angeles County Medical Association, 736 South Flower street, Los Angeles.

$ $ $ $ $

DANGEROUS DOLLARS

A well-known wealthy California business man writes:

"About two years ago, my wife wanted a marble-sized cyst removed from the fleshy part of her arm. Our family doctor said that, while it was a simple matter, he thought Doctor X Y Z, a well-known surgeon, could probably do it more skilfully, with a smaller resulting scar. Surgeon X Y Z removed the thing in his office. He deadened the pain with an injection, and we were in his office possibly a half-hour. There was one visit to his office some days later, and we have not seen him since. I was surprised a few days later to receive a bill for $1000. At first I thought of contesting the amount, but we decided to pay it and use our influence thereafter to protect our friends against falling into the hands of such a grafter. *We have tangible evidence of our success, which we interpret as a public service.* The greatest consolation we have had out of the experience is that, when explained to our family doctor, he commended our course."

Another successful business man relates his experiences with Doctor A B C, who sent him a bill for $5000 for a simple uncomplicated operation for removal of the appendix. Another victim writes: "What's getting into you doctors, anyway? You can't all be grafters, but unless you take up and solve some of your problems and, in particular, shear some of the dirty crooks who wear the cloak of your noble calling, it is not difficult to foresee dire consequences."

And so it goes, and not all the complaints by any means come from victims. Decent doctors are as much exercised over the apparently increasing number of medical Ponzi's as are other people.

One of the leading physicians of California writes:

"I have been very much impressed in the last several years by the very high fees which some men in our profession are charging, and I have seen a very goodly number of lay citizens shake their heads at the medical profession. The impression is growing that the reason we all of us don't do this kind of thing is simply because we do not dare. It certainly would be a dreadful state of affairs if the lay public got it into their heads that the medical profession was in one sense a group of 'hold-up artists.'

"Not long ago one of my banker friends told at a dinner party of this experience with a doctor:

"It seems that a wealthy easterner, an elderly man who came West every winter, went down with pneumonia. A well-known doctor was called in, and he in turn called another doctor in consultation. The old gentleman died. The banker was called upon to make arrangements to take the body back East. The illness lasted about two weeks, and the bill for the first doctor was $15,000 and the bill of the other was $5000. The banker had been instructed to settle up all debts, and he went to these doctors and they smiled him out of their offices at the mention of a reduction in the fee. He then went back to them with a compromise offer, of something like $5000 and $1000. Again he was smiled out of their offices. He then went to a very well-known lawyer and said, 'get these birds,' and I think they settled on the basis of $500 and $250, respectively.

"I confess I do not see the way out, but I do believe that a bit of editorial comment from time to time, dealing with the significance of the practice of the art of medicine and its ethical and social obligations, as contrasted to the purely financial considerations and motives, might be of real service in holding some of the younger men, who hear about these expressions of extensive commercialism, along the decent path of proper medical practice.

"Pardon my sending you all this stuff, but I know your deep interest in all things that concern the welfare of the medical profession, and I feel

that you will give the matter thought, and at a suitable time such expression as may seem proper."

Another prominent ethical doctor writes:

"Recently, while visiting in a small California city, Doctor John Doe told me (giving names and dates) that one of his old friends, Mr. Duplex, had been under the care of Doctor Catchem. The only positive findings were three dead teeth, but there was laboratory work done each day and a 'vaccine made from the blood,' and a bill rendered for six weeks' services of $7500. The doctor told the patient that he was on his way to Europe to lecture before the Royal College of Physicians, and on his return would deliver a series of lectures at the Mayo, etc. He suggested that Mr. Duplex put himself in his care and he would keep him well for $2500 a year—this meant monthly examinations. He stated that Mr. A paid him a retainer of $15,000 a year and that Mr. B, the banker, paid him $10,000 a year, and so on.

"The whole process sounds like the routine of a quack. If it is true it is a very lucrative business. I am curious to know whether this form of 'health insurance' is being carried on in the state of California, and if so if it is ethical. I am not sending this letter in the form of a complaint, but merely to satisfy my curiosity and to relay the information to Dr. John Doe. I am sorry to bother you with the matter, but I thought you would be more interested in it and have information about these doctors."

These are isolated instances of panhandling, to be sure, and we have others much worse than these, but difficult to disguise without destroying the point aimed at and too disgraceful to publish, even were it expedient to do so. When our collection of these depressing narratives gets a little larger, we propose to tabulate them for the information of the profession. It seems that the majority, if not all these commercialists, have certain common and obvious characteristics: They are amazingly egocentric, pompous, and invariably severely destructive critics of their own organizations and the "moss-covered ethics" that their more worthy colleagues love to honor. The most stupid characteristic of these gentry is that they act as if they thought their well-covered heads also made invisible their slimy coats of muck, whereas their doctor acquaintances know them, and more and more of their patients are finding them out.

Is there a cure for this "cancer" that is getting a hold upon a humanitarian profession? Of course there is, but it may require some fearless surgical work without too much anesthetic. We don't want to wash dirty linen in public, but only the sunshine and breezes of the great open places will remove some odors and bleach certain materials.

"MINERAL WATER" PROPAGANDA

The "playing both ends against the middle" type of mineral water propaganda, now so active, is likely to prove a Frankenstein to some wily promotors. Several of the newer type of press agents, propagandists for pay, publicity brokers or whatnot appear simultaneously to have adopted the policy of carrying dignified, restrained advertising in such good medical magazines as they can induce to accept it and, *at the same time* have been running in the public press the wildest of wildcat propaganda for the particular mineral water they are promoting. That is old as a patent medicine trick, but is only now coming into its own as a method of fooling people about so-called mineral waters.

"Mountain Valley Water" from Hot Springs, Arkansas, for instance, is advertised in a dignified manner in certain scientific literature. But in the public press it is said to be indicated in quantity consumption for "dizziness," "throbbing temples," "headache," "backache," and a lot of other symptoms common to many infirmities. Other waters—many of them—both of the imported and home varieties, make the most ridiculous and untruthful claims, particularly as to "purity" and medicinal virtues.

The exercise of a modicum of intelligence is convincing that *there is no such thing as pure water.* All waters are "mineral waters" in the sense that they contain minerals, usually a mixture of them in small amounts. Distilled water is the nearest approach to "pure water," but even that is not *pure* except when extraordinary methods of distillation are employed.

"Pure spring water" and similar phrases catch the eye and make an appeal to the unwary. All natural water absorbs the soluble matter through which it filters. Excluding extraneous contaminations, practically all water is a diluted solution of such chemicals as it has been in contact with, plus parasites and bacteria. So-called "mineral waters" differ from average river, city, or well water, chiefly in the fact that they have absorbed more chemicals and medicines than has ordinary tap water. Their alleged medicinal and special health values, therefore, depend upon the presence of the same chemicals that can be bought pure or in precisely the same amounts and combination contained in "mineral waters," at any drug store.

The approach now being so actively promoted by many mineral water salesmen is precisely that of the patent medicine vendor who mixes the same chemicals in his "laboratory" and usually puts them in solution in distilled water because this is his safest vehicle, and sells them for fancy prices.

As a matter of fact, many so-called natural mineral waters are made artificially by adding the salts to ordinary water.

There are certain mineral waters promoted only upon a dignified, intelligent, and truthful basis. *The contents of the water are listed,* but *no exaggerated healing claims* are made for the sodium, potassium, and other drugs they contain. Physicians often prescribe such waters, but they do so because the particular drugs the water contains are indicated for the particular patient, because the mineral water is a convenient and palatable method of giving the drugs, and for several other perfectly good reasons.

However, it is growing particularly difficult to distinguish between good and bad in mineral waters, and we are likely to see some interesting public reactions if propaganda continues in the stupid way in which much of it is now being conducted. To medical editors the problem is a hard one. The only safety appears to lie in a policy of accepting advertisements only of those waters of known inno-

cent content and which are not *unduly exploited in advertising of any kind anywhere.*

Whenever the promoters of a "mineral water" claim its purity they are ignorant or handle facts lightly. And whenever mineral water promoters advertise their product in the treatment of symptoms or diseases, they are *practicing medicine for pay* and only escape the consequences of their acts by imperfections in the law.

CALIFORNIA AND WESTERN MEDICINE welcomes truthful advertisements of reliable "mineral waters" whose copy with us, as well as all advertising copy of any kind published anywhere, is truthful in its statements. There are not many such waters on the market. Most of them prefer the cheap patent medicine faker type of propaganda because—well, read Barnum's life.

HEXAMETHYLENAMINE AND SYSTEMIC ANTISEPSIS

Hexamethylenamine is still exploited in the treatment of all kinds of infectious conditions and diseases, among which pneumonia, scarlet fever, typhoid, meningitis, and anterior poliomyelitis receive their share of enthusiastic attention. According to the best evidence, the drug itself is inert. The mechanism of its antiseptic action depends on formaldehyde liberation in the presence of free acidity, a condition which has generally failed of demonstration in most systemic infections. Accordingly, a scientific basis for the alleged beneficial action in infectious diseases would appear doubtful. However, in pneumonia, Lord has demonstrated that extracts of, and certain areas in, the lungs possess an acid (pH = 5.4 and 6.0) reaction, a condition that would be favorable to hexamethylenamine therapy in this disease. On the other hand, dilution of the drug, the abundance of protein for combining with any possibly liberated formaldehyde, the relative impermeability of the consolidations, acting as obstacles to free diffusion, are some considerations among others which would tend to reduce the antiseptic efficiency. In any case, an adequate concentration of the formaldehyde would be necessary for antiseptic action. Such a concentration might conceivably exist momentarily and exert its effect, and yet not be demonstrable by the ordinary tests for free formaldehyde. Moreover, the sensitive colorimetric tests cannot be applied to blood or colored tissue extracts. Clinically, it is even less satisfactory to appraise the value of an antiseptic, especially in a self-limited disease such as pneumonia. Hence, the problem of determining a basis for the antiseptic action of hexamethylenamine resolves itself into a study of its fate in the body and under experimental conditions most favorable for the liberation of formaldehyde. It has remained for De Eds of the Pharmacological Laboratory of Stanford University to make such a comprehensive study of the drug under different conditions in vitro and in vivo.

Using human subjects, De Eds found the quantitative excretion after small and large doses to be variable, ranging from 32 to 85 per cent. The excretion lasted from thirty-three to forty hours, and was not influenced by the diuresis, fluid intake and dosage of the drug. Administration of sodium bicarbonate, for neutralization of the acid in the alimentary tract, raised the quantity of hexamethylenamine excreted in urine. Accordingly, it appeared that a part of the unexcreted portion could be accounted for by decomposition (liberated formaldehyde, which is not absorbed) in the alimentary tract. However, the irregularity of excretion after bicarbonate in different subjects suggested that a portion, about 14 per cent, of the drug undergoes decomposition in the body, which is practically tantamount to saying formaldehyde liberation. Incubation experiments in vitro showed that a small though unmistakable quantity of hexamethylenamine was decomposed with formaldehyde liberation in alkaline buffer mixtures, but this was markedly reduced in the presence of serum protein. Blood obtained from the hearts of animals injected with large doses of the drug did not show evidences of formaldehyde liberation, as indicated by changes in the urea (from ammonia, a hydrolytic product) and formic acid (oxidation product of formaldehyde) contents, even when the bloods were rendered acid (pH = 6.6) by induction of fatal asphyxia. Human subjects receiving 1 and 2.5 gms. doses of hexamethylenamine excreted from 0.005 to 0.0154 gms. formic acid, amounting to from 0.26 to 0.31 per cent of the total drug administered, in complete collections of their urines. It appeared, therefore, that formaldehyde, as a precursor of formic acid, was liberated in the tissues. However, De Eds estimates that even if these entire quantities of formic acid had remained in the blood the concentration of formaldehyde represented by the subject receiving the highest dose (2.5 gms.) of hexamethylenamine would be about 1:500,000, which is only about one-twentieth of that necessary for antiseptic action. At any given moment during the liberation there was probably much less formaldehyde. He concludes that there is no good basis for the use of hexamethylenamine, orally or intravenously, as a systemic antiseptic in various infectious diseases and localized infections. The excreted formic acid is too small in amount to account for the alleged benefits on the basis of the very low concentrations of formaldehyde that might be liberated as an intermediary product to or precursor of the formic acid.

Thus, another disappointment in hexamethylenamine must be registered. Other scientific investigations have indicated its total worthlessness as a uric acid solvent, as a diuretic and as an antiseptic for ammoniacal urines of cystitis. Let it be reiterated that the therapeutic usefulness of hexamethylenamine is limited to preventing the growth of bacteria in the urinary tract, as, for instance, before or during instrumentation and in cystitis, providing the urine remains acid, otherwise no benefit is to be expected. Its use by mouth and intravenously in systemic and localized infections, with the object of producing an antiseptic action in the blood and tissues, lacks scientific foundation and is unjustified.

Hanzlik, P. J. and Collins, R. J.: "Hexamethylenamine," Arch. Int. Med., 1913, 12:578.

Hanzlik, P. J.: "The Liberation of Formaldehyde from Hexamethylenamine in Pathologic Fluids," J. A. M. A., 1916, 72:295.

Lord, F. T.: "Relation of Pneumococcus to Production of Acid in Fluid Culture Mediums and Reaction of the Pneumonic Lung," J. A. M. A., 1919, 72:1364.

De Eds, F.: "Fate of Hexamethylenamine in the Body and Its Bearing on Systemic Antisepsis," Arch. Int. Med., 1924, 34:511.

- The MONTH with the EDITOR -

Notes, reflections, extracts from correspondence, comment upon medical and health news in both the scientific and public press, briefs of sorts from here, there and everywhere.

There's an important health problem bound up in the subject of that suppressed university debate.

The health problem will be a much larger one if these young Demosthenes succeed in suppressing the family as a factor in civilization as effectively as President Campbell suppressed the debate.

However, the ways of suppressors are hard.

"Have you had your tonsils and adenoids rayed?" will soon be the fashionable greeting, instead of "Have you had your tonsils and adenoids out?"—Medical Standard.

As was to be expected an assortment of mail-order "doctors" and would-be doctors, calling themselves "nutrition specialists"—through paid newspaper advertisements—are inviting distracted parents to write to them for the **"genuine"** advice they need to safely feed their loved ones.

When advertising doesn't pay it has a short life—so we say, poor babies!

"The more interest the individual layman takes in medicine, the greater becomes his demand for high-class service," believes Lucius F. Donohoe (Journal New Jersey Medical Society). "The present generation of physicians," continues Doctor Donohoe, "has not only greatly lengthened the life of the individual, through the prevention of many diseases, through research work, and practical elimination of preventable disease, but has actually increased the public demand for better medical service."

"A wide-awake, blue-eyed" professor—"doctor"—of an Eastern university has electrified a lot of sub-morons with the statement that sleep is a habit—an unnecessary habit—probably a dangerous habit.

He establishes (?) his conclusions by the sort of analogy that appeals to his class of "discoverers."

"SOME of the love letters written by the old boys indicate that hardening of the arteries is less to be dreaded than softening of the brain."

"A JOKER put a sign on a penny-in-the-slot machine: 'If you push hard enough you will get your money back.' The next morning a Scotchman was found dead at the foot of the machine."

Doctor Emile Roux, Paris (The Scientific Monthly), tells a story of "The Medical Work of Pasteur" that will entertain, edify, and recharge the batteries of every physician.

Roux wrote his thesis nearly thirty years ago, but those who have not read it in the original will enjoy Edward F. Smith's translation, as published in The Scientific Monthly.

According to the Public Press:

—A great press association's London representative again heats the cables with the alleged mutterings of another world-medical authority. In this instance the new (?) fact (?) that "it is a good thing to tickle babies" constitutes the amazing message. The erudite savant is quoted as saying that "tickling makes babies laugh," and that laughing "makes their lungs expand," and that "expansion of the lungs forces them to breathe fresh air."

Next thing we know there will be a tickling treatment for tuberculosis, "falling of the womb," and ingrowing toe-nails.

Funny world, isn't it?

—The Doctor who advises tickling babies to make them healthy is a distinguished London specialist, but even his medicine should be used in very small doses.

Before following prescriptions from experts at a distance, ask the family doctor. He knows your child's case better than anyone in London.—From an editorial, San Francisco Chronicle.

—Quite a thriller, that race of a "special train" across the continent to get a Southern California rich man to Doctor Deaver at Philadelphia for a desperate operation.

Now, Doctor Deaver is a fine surgeon, but he would be the first to state—and truthfully—that there are scores of surgeons in the patient's home city of Los Angeles as competent as Deaver or anyone else to do the alleged "dangerous and unusual operation" which was performed after a "desperate race with death."

By the way, the mere matter of detail as to whether the patient died or recovered was lost in the whistle of the thrill.

—That Federal Government agency that is telling farmers how to grow corn (also being the last word in medical knowledge, as well as agriculture) is telling mothers how to grow babies. The "Chief of the Bureau" is quoted as telling university students that getting babies to eat correct food and digest it was only a matter of intelligently applied psychology. He led for a thrill by this remarkable achievement:

"An undernourished little girl who said 'no' to everything given her was brought to the nursery. If she did eat she became sick. Our staff members explained to her that 'it simply wasn't done'—little children at the nursery never got sick. Within two days this youngster was eating her meals with the rest of her playmates, without a word."

Hurrah for the Department of Agriculture! Hurrah!

—Mr. Coue, by a heavy spurt managed to reach the second page of some newspapers for one brief issue.

It seems that he had nose-bleed, which he treated by "It passes, it passes," and next day it had passed.

What a "flash" Coue was when we look back at it. Whom was the joke on, anyhow?

—The City Attorney of San Francisco has ruled that the name of the Relief Home may not be legally changed to "The End of the Trail" or "Rest for the Weary."

We should hope not!

—Observance of Boys' Week has been condemned by the Federation of Women's Clubs.

It's about time for this stupid fad and a lot more like it to disappear along with "health fairies," "little Willie" health crusaders, little Emile Coues, and similar stunts and stuntists.

—Mrs. Wallace Reid, motion-picture actress, is quoted as having "investigated every known remedy for narcotic addiction. She studied every medical aspect of the problem, and read all the literature on the subject."

What a ridiculous statement, and one calculated to lead to harm *if* taken seriously. Yet this "great authority" in medical matters is behind a movement to substitute one of the most dangerous of all poisons in the treatment of patients addicted to the use of one almost harmless by comparison.

Mrs. Reid belies her looks and the records of her age if she has done all the things she "admits" having done in the above quotation.

—"If it were possible to absolutely shut off the traffic in contraband drugs in the United States tomorrow we would have thousands of sick and dying on our hands,"

Mrs. Wallace Reid, "one of the foremost authorities in the United States on drug addiction" (?!) is quoted as saying in what appears to be her propaganda to get San Francisco people to "support" a sure-cure hospital to practice medicine according to the "fully proved plan" of one Fred Du Bry.

The "Reid Foundation" tried this experiment for some years in Los Angeles and apparently failed to secure the support they wanted. In any event, the Los Angeles sure-cure hospital has been closed, and the "Foundation" is trying to sell their sure-cure method to San Francisco citizens.

It is safe to prophesy that they won't even get to first base.

—Physicians who are of course informed of the action of opium products upon guinea pigs will get quite a kick out of one Du Bry's newspaper accounts of how he made dope addicts out of these animals and used these dope-sters to discover and perfect his sure "painless cure" for human addiction.

Quite a stunt that, and it is all the more illuminating by Du Bry's quoted admission that he was using dope himself during his experiments. He claims to have been completing his knowledge of the medical sciences during the same period—at least when he wasn't looking for a job.

Du Bry is not good enough on the "sob sister" stuff. He would stand a better chance by engaging an expert.

—"This article paid for by the Medical Research Syndicate for the Advancement of Science."

This slogan is printed in suspiciously small type, easily overlooked on a display page of eulogy of a doctor who is announced as devoting the resources of a great herd of wild he-goats to the rejuvenation of such gullibles as can be induced to fall for the amusing appeal of this "medical syndicate" (?)!

We *do* wonder about the claim that "more than two hundred representative physicians" have had this doctor's treatment and that an "average of from three to five doctors apply weekly for shots of the wildness of the wild goats from the wildness of a summer resort island off the coast of California.

Again we wonder (?)!

—California's Superintendent of Physical Education showed himself a philosopher of the old school when he put his "O. K." on:

"Short skirts, cosmetics, loose waists, low-necked dresses, short sleeves, rolled stockings, modern shoes, and bobbed hair."

However, we suspect that the newspaper correspondents somewhat garbled the good doctor's thoughts when they quoted him as saying that "Loose waists give the internal organs a chance to circulate."

—"Scientists Plan Artificial Mating of Man and Monkeys"—This cabled dispatch from Russia has been treated by some papers as "news."

If this is "news" the definition of that elusive term may no longer be sufficiently illustrated by the story of the man biting the *dog*.

—We knew some sentimentalist would restore the happiness of female monkeys of the African jungle and female goats of the wilds of Catalina by restoring their consorts to them in serviceable condition.

Two "Docs" in Berlin, "news" dispatches "inform" us, have invented "*Ovowop*"?! which is the genuine simon-pure quintessence of that thing necessary to keep women young.

It is no longer necessary for them to rob happy goat and monkey homes to retain their voluptuousness and youth. They may have laboratory-made stuff injected by *hand*.

Ain't science wonderful?

—Some people got het up over the stories about California's poor little deaf and blind wards having to eat beans.

Eliminating the obvious, the initiated will see in explosions of this character the natural consequences, yet in their infancy, of our "health education" efforts as they are being promoted by different groups of what one editor calls "directors of vitamines and calories."

Scientific dietetics is a worthy study, but as a people we have long since lost sight of the fact that good health depends quite as much upon a knowledge of the great variety of capacities for food digestion and assimilation as it does upon the inherent possibilities of food elements.

Sooner or later the present fad will pass, and we will start all over again to study dietetics, as physicians always have been taught, in terms of end-products produced by the action of known foods in unknown boilers.

—A physician holding a dignified position, and who recently returned from a trip to the Orient, brings back the startling news that: *"It is now agreed that beri-beri prevails chiefly among peoples who eat highly polished rice."*

We thought the moon was about right to indicate this discovery again. Maybe the doctor didn't say it, but the A. P. served it to its subscribers, and it got the doctor's name and his position correct.

—An English insurance company is doing quite a business insuring prospective parents against twins.

A stunt of this kind is provocative of dreams of what might be done—and some day will be done in broader fields by intelligently planned voluntary health insurance.

—There is but one solution for what the owlish school of thought calls the "crime problem," and the solution is so simple and effective as to render the use of the word "problem" superfluous. So long as we slobber over thieves, murderers, and swindlers instead of punishing them, the periodic "crime waves" will continue to roll on, robbing us of our savings and disturbing our peace of mind. And of one thing we may be sure, the present deplorable conditions will continue so long as sentimentality is permitted to usurp the offices that rightly belong to justice and reason.—James S. Ford (Scribner's, October).

—Among the ten or more "fights" that reached the headlines in one day recently was the news that the doctors had suddenly decided to wage a "fight" on the maternal death rate.

Such "news" may surprise doctors who have grown old in this "fight." It's a worthy one, but when the record is compared with some others, we seem to be doing quite well. The rate is 14.9 per 100,000. Killers alone got 8.4. Then, too, some people forget that childbirth doesn't kill all who die at that time. There is more than the normal rate of death for other women of similar ages that must be subtracted from these figures and only the balance charged to the "incompetency," "carelessness" and what-not of doctors.

However, chiefs of bureaus have got to have excuses for spending tax money, and they must make "news" out of their stories in lieu of paying advertising rates. There are too many women dying of childbirth, and all decent doctors do what they can to reduce this mortality.

Propaganda of a federal tax-supported bureau calculated to arouse dissatisfaction with doctors isn't going to help.

—We don't yet know precisely what Sir Arthur Keith did say about the appendix, but whatever it was it captured both the front and editorial pages of hundreds of newspapers.

It appears that Sir Arthur believes that troubles with the human appendix are explained by man's "faulty habit" of standing on only two of his legs. Thus we have another job for the habit posture and child guidance clinics.

By the way, those doctors who have not read Doctor Keith's two volumes on "The Antiquity of Man" have missed something very much worth while.

—"Copper poisons have been found in 10 per cent of the 'bootleg' liquors," says a news item. Doctors of this generation will soon have to be as familiar with copper poisoning as were our colleagues of generations ago.

And so goes health progress.

—Turn off the radio at 10 o'clock, advises the California

Health Board as one of its several longevity rules—pretty good ones, too, as rules go.

But why turn on the radio at all for health information? No one but an educated physician—and he doesn't need the advice—can pick out from the large volume of propaganda the small amount of legitimate health advice that comes through the air.

Sentences like this—"If *cases* are placed under observation early, when the condition of the *patient* is good—" recur with astounding frequency in medical manuscripts. Why?

From the Editor's Mail:

—Your letter was very stimulating to me. I appreciate your kindness in accepting my article. In the preparation of various reviews I have glanced over hundreds of state and interstate journals. The only one that I religiously put with the big surgical and urological periodicals for careful reading is the one that you have edited for so long. It suggested to me that the state that I was going back to had a high content of good medical timber. I like the method of discussion after the articles; sometimes it is of more value than the article—A. J. S., Los Angeles.

—Allow me to express on behalf of myself and the members of our society our deep appreciation of the marked improvement in CALIFORNIA AND WESTERN MEDICINE under your able editorship. Especially do we find the November number of exceeding interest.—H. D. L., Woodland.

—May I add a word of appreciation for your recent article, A. M. A. Journal, and also for the one in *Better Health* in defense of the doctor. The latter should be published in a lay magazine, and ought to be given space by Collier's. Perhaps this has already been done. Your persistent fight in behalf of the regular profession is widely appreciated, and will be of great value, especially to the young men.—W. L. H., Los Angeles.

"Life is the state of an organized being in which it maintains, or is capable of maintaining, its structural integrity by the constant interchange of elements with the surrounding media."

This definition, copied verbatim from Oliver Wendell Holmes, was recently widely published as original by—Well, never mind, but he ought to be ashamed.

With Other Medical Editors:

—There are as wide ranges of metabolic peculiarity in man as is shown between a razorback and a Berkshire pig. Davenport, in his recent study of Body Build and Inheritance finds that these peculiarities with their resultant products of slender or heavy types of structure, or of leanness and fatness, are decidedly matters of heredity.

In a time when too much is being made of height-weight indices as measures of nutrition, some of his conclusions are of interest as supporting opinion from common observation.—Editorial, Medical Journal and Record, November 4, 1925.

—Some medical editors are being rather critical of Doctor W. H. Kellogg's stand (American Journal of Public Health, October) regarding the use of the Schick test.

Doctor Kellogg is a member of the C. M. A. and active in public health work. CALIFORNIA AND WESTERN MEDICINE will not comment upon his utterance, but we will make "The Schick Test: Its Uses and Abuses" a subject for "Bedside Medicine for Bedside Doctors," and ask Dr. Kellogg to open the discussion.

—It is very interesting to study the reviews in any of the medical publications enjoying a large circulation. One is impressed by the gentleness with which the reviewer handles the feelings of the author and the publisher. It is very rare indeed to find a frank condemnation of a poor book or of a poor section of a good book. Such criticism as is offered is usually couched in such delicate phraseology as to rob it of its purpose. It would be very refreshing to find a statement that a given book should never have been published, if such a statement is deserved. However, one never sees so frank a criticism, though it is certain that many books are produced annually for which there can be no possible excuse.—Editorial, Atlantic Medical Journal.

—The leading editorial (Boston Medical and Surgical Journal, November 5) takes frank issue with both statements and conclusion of W. H. Kellogg's article about Schick tests (American Journal of Public Health, October). The concluding paragraph of the editorial reads:

"The large and constantly increasing experience of physicians and health officers in Massachusetts is quite contrary to the experience reported by Doctor Kellogg. It confirms the reliability and value of the Schick test as an agent in diphtheria prevention and gives an emphatic 'No' to his, 'Should the Schick test be abandoned?'"

—The relation of sadism to sex is well understood by medical men. The real irony of the situation in the movies consists in the frantic efforts of the smut-hounds to limit the duration of a kiss, or to tone down a bedroom farce, or to keep enough clothes on the stars, while the graphic presentation of sex in its most brutish, vicious and perverted forms gets over with a terrific wallop. Nothing more is needed to prove the futility of censorship and the imbecility of the censors.—Editorial, American Medicine.

Taking care of a patient *means* more than treatment of a specific disease.

Treatment of the disease may be impersonal, but the care of the patient must be personal.

Hospitals are apt to deteriorate into dehumanized machines.—Francis Peabody (Boston Medical and Surgical Journal).

DOCTORS ARE IN THE HABIT OF KEEPING DATES—They should, therefore, all remember and plan for the A. M. A. and C. M. A. meetings of 1926. The A. M. A. meets in Dallas, Texas—almost next door—April 19 to 23. Let's all go. Texas came out strong to support California when the A. M. A. was with us in 1923. It is going to be a great meeting, and some of the most interesting problems ever before medicine will be threshed out and acted upon in the House of Delegates.

AT ITS recent meeting the Southern California Medical Association elected T. C. Lyster, President; A. J. Thornton, First Vice-President; C. R. Howson, Second Vice-President, and C. T. Sturgeon, Secretary-Treasurer.

The next session will be held in San Diego.

We regret being unable to secure data upon which to base the more extensive publicity this important association so richly deserves.

Doctor—I'll examine you all over for $15.

Patient—All right, Doc; and if you find it, we'll split fifty-fifty.

California, Nevada, and Utah Doctors Publish Elsewhere:

[Note—Members of the California, Nevada, and Utah Medical Associations are invited to supply the editor with reprints or marked copies of magazines containing their articles or very brief abstracts. All that we receive will be noted regularly in this space.—Editor.]

—Victor G. Vecki, San Francisco (Journ. A. M. A., November 21, 1925), writes on "Fifty Years of Progress in the Treatment of Gonorrhea."

—E. B. Shaw, H. E. Thelander, and **E. C. Fleischner,** San Francisco, write on "Convalescent Serum in Preparalytic Cases of Poliomyelitis: Results of Intramuscular Administration."—Journ. A. M. A., November 14, 1925.

—Roland P. Seitz, San Francisco, writes on "Extreme Leukocytoses in Pertussis: A Survey of the Literature and Report of Two Cases."—American Journal of Diseases of Children, November, 1925.

—Walter Scott Franklin, and **Frederick C. Cordes,** San

Francisco, write on "Electric Cataract."—Journal A. M. A.

—**Ernest S. DuBray,** San Francisco (Amer. Jour. Med. Sciences), "Comments on Body Weight in Relation to Health and Disease."

—**John W. Shuman,** Los Angeles, "The Aim of the Medical Student," in the New York Medical Times, December, 1925.

There's sunshine in the heart of me
My blood sings in the breeze
The mountains are a part of me
I'm fellow to the trees,
My golden youth I'm squandering,
Sun-libertine am I;
A-wandering, a-wandering—
Until the day I die.

One may wonder whether Robert W. Service was taking his own treatment when he penned these lines, or whether he was inspired by the traditions of the sun worshipers. In any event, he wrote a manual of therapeutics that many people are following as our forefathers followed it, with somewhat less appreciation of underlying principles than exists today.

"So you don't believe in vaccination, Mrs. Agronomy?"

"No, indeed, Bella. Three weeks after little Yokel was vaccinated he fell out of the window and broke his neck."—Brown Jug.

However well-intentioned men may become under the influence of religious and literary institutions, when the bodily organization is weak, the power of virtuous effort is proportionately enfeebled. . . . All along the life-way of a pure-minded but feeble-bodied man, on the right hand and on the left, his path is lined with memory's grave-stones, which mark the spots where benevolent enterprises perished and were buried, through lack of physical vigor to embody them in deeds.—Horace Mann.

"Whatever doubts may be entertained of moral evils, the natural, for the most part, such as bodily infirmity, sickness and pain; all that class of complaints which the learned call chronic diseases, we most undoubtedly bring upon ourselves by our own indulgences, excesses, or mistaken habits of life; or by suffering our ill-conducted passions to lead us astray or disturb our peace of mind."

Doctor William Cadogan wrote this about two hundred years ago. Cadogan was held up to ridicule and largely ostracized for the statement, as were others for similar conclusions hundreds of years before. Today similar facts are applauded as "discoveries" and the savants who make them honored among men.

Would we be classed as pessimists if we prophesied that these simple facts may be "discovered" again two hundred years from now?

In any event, as Kipling wrote:

"The Lord knows what we may find, dear lass,
And the deuce knows what we may do,
But we're back once more on the old trail,
Our own trail, the out trail,
We're down, hull down on the Long Trail,
The trail that is always new."

Our mail continues to be a source of joy, help and inspiration. There are many indications of the sound progress of a magazine. Skillful administration (the coordination of editorial, advertising, circulation, and manufacture) is one which makes for profitable operation; advertising gain, which shows greater confidence in a magazine's influence; circulation, new and old, the former reflecting growing acceptance, the latter reflecting growing "reader regard"; finally, editorial influence, affecting first and last all the others, yet showing distinct manifestations all its own. . . .

The phase that interests me most is the response of readers. The bugbear of all editors is, "Is it read?" No editor likes to soliloquize. A fine, double-fisted editorial, pointed to reform the universe—how much is it worth if nobody reads it?—Editorial, Nation's Business.

"To the young and voluptuous, who are yet in their career, and declare for a short life and a merry one," wrote William Cadogan in "A Dissertation on the Gout," some two hundred years ago, "I have nothing to say but this, that a short life is very seldom a merry one; on the contrary, is generally made up of a few years of riotous pleasure without happiness, to be severely paid for by as many more of pain, sickness, regret, and despair."

What a splendid service Doctor W. Jarvis Barlow and his associates are rendering in conducting the Barlow Sanatorium in such a manner as to make it useful to the curable tuberculous of moderate means.

The twenty-second annual report of this worthwhile medical institution has just been issued and, like the others, it reflects credit upon the sponsors and managers of this association, and its usefulness is indicated in the volume and character of its work.

California and Western Medicine Has Accepted for publication in forthcoming issues, in addition to the list published in the December issue, the following essays, which will be published in due course of time, as suitable space is available:

A. J. Scholl, Los Angeles, "Resection of Kidney for Stone."

H. J. Templeton, Oakland, "Skin Lesions as Diagnostic Aids in General Medicine."

H. D. Lawhead, Woodland, "The Relation Between Physician and Patient."

Oscar F. Johnson, Sacramento, "The Neurasthenic Patient."

E. S. Pomeroy, Salt Lake City, "Common Sense and Urinary Lithiasis."

R. Manning Clarke, Los Angeles, "Some Observations on the Influence of Bowel Irritation Over the Gastric and Duodenal Region."

OPERATING-ROOM BALLAD

By J. Lee Hagadorn, M. D., Los Angeles

"What's all the choking going on?"
The student nursie said.
"A T and A, A T and A," the orderly replied.
"They're pullin' out his tonsils
An' he's gaggin' fit to kill,
An' he'll find his neck in ice-packs in the mornin'."

"What makes the head nurse run so fast?"
The student nursie said,
"They blew a fuse, they blew a fuse," the orderly replied.
"They blew a fuse an' spilt the tray,
An' old Doc Smith is cussin', say
There'll be a new head floor nurse in the mornin'."

"What makes the mother stagger so?"
The student nursie said.
"A touch o' faint, a touch o' faint," the orderly replied.
"A touch o' faint; she saw the gobs
O' blood upon the cotton swabs,
But she'll be feelin' better in the mornin'."

"Where are they going with him now?"
The student nursie said.
"He's put to bed, he's put to bed," the orderly replied.
"He's put to bed to spit and hawk,
To gurgle, groan, and try to talk,
But he'll be feelin' better in the mornin'."

The following statistics (National Safety Council) of the influence of motor accidents in the United States for the first six months of 1925 upon the public health need no comment:

	Total	Resulting fatally
Total number of accidents reported	21,444	799
Private passenger car	18,468	496
Truck or commercial	4,245	243
Taxicab	1,896	67
Jitney	95	4
Bus	156	11
Motorcycle	579	16

There is nothing new except what hath been forgotten.—English Proverb.

Medical Economics and Public Health

Stanford Popular Medical Lectures—The forty-fourth course of these lectures will be given at Lane Hall, north side of Sacramento street, near Webster, San Francisco, on alternate Friday evenings at 8 o'clock, beginning January 8, when H. K. Faber will discuss "Dietary Peculiarities of Children," to be followed:

January 22, by H. E. Alderson on "Skin Disturbances From Foods and Drugs; February 5, Hans Lisser on "Ductless Glands and Obesity"; February 19, P. K. Brown on "Gastro-intestinal Disturbances and Nutrition"; March 5, E. G. Martin on "Fatigue and Rest"; March 19, G. E. Ebright on "On the Prevention of Disease."

Doctors and their organizations are everywhere much interested in the problem of making the simple facts about health available to those who care to have them, so why not attend these lectures and invite your clientele to attend them, and support popular medical lectures given, as they always should be given, under medical supervision?

The abuse of medical charity is increasing. Thousands of well-paid and prosperous patients crowd the clinics, and some of them go there with the idea that they are getting a superior kind of treatment, but most of them go there because they can get something for nothing and they can save money that should go to private practitioners of medicine. Once they have tasted the benefits of medical charity, so freely bestowed by the clinic operated and controlled by state, city, public health and social hygiene services, it is easy to expect that kind of service always, and from everywhere they apply. Those who accept medical charity soon lose their self-respect, and if they do not become actual dependents they add to the burdens of the enterprises that are kept up by taxation.—Editorial, Journal Indiana Medical Association.

The individual general practitioners constitute by far the largest group of doctors; perhaps 75 per cent of all. Except in emergencies the great mass of the population look to the general practitioner. When the word "doctor" is mentioned, it is he who comes to the mind of the average citizen.—President Vincent of the Rockefeller Foundation, Ohio Medical Journal.

"Doctor" John Scott Barker must serve five years in the penitentiary. Barker was convicted about a year and a half ago of violation of the Federal Narcotic law in connection with the operation of "narcotic cure" hospitals.

Twenty thousand infant deaths, 40,000 abortions, and 80,000 deaths among adults is the toll exacted by syphilis in France each year, according to the Minister of Labor, Hygiene and Social Welfare.—The Lancet (London).

Why patronize itinerant microscope fixers when reliable firms are advertisers in your magazine?

Only a reliable expert should undertake to recondition a good microscope. Those who have not yet learned their lesson might see something of interest in this note.

Physicians always have and always will render much free service. That is humanitarian. That is professional duty. They always have, and always will lead the way in public health movements, even to their sacrifice and personal detriment. That, too, is proper. But should it also be their duty, at additional financial sacrifice, to advertise public health and scientific medicine to the public? Probably they should in some manner. One wise teacher and observer has declared that physicians overlook many opportunities for "health education" in their contact with their patients. Could not such splendid opportunity be utilized to advantage?—Ohio Med. Jour.

The mass of the population (perhaps 75 to 80 per cent) are treated by general practitioners who have limited technical appliances, little or no specialization of skill and slight relation to medical services organized in hospitals, dispensaries, and clinics. The rich and well-to-do (perhaps 5 per cent) receive attention from specialists who depend primarily upon their own individual equipment, who have little connection with institutional medicine, but provide a high degree of specialized skill. The poor (perhaps 15 to 20 per cent) are under the charge of organized practice, that is, doctors who have access to institutional equipment, offer a high degree of specialization, and are fairly well connected with hospital, dispensary and health center services.—President Vincent of the Rockefeller Foundation, Ohio Med. Jour.

Bootlegging in the sphere of reproduction is practiced by people on a larger scale than it would be were there no such laws on the statute books. What would have been moderately practiced is now immoderately resorted to, with the result that the birth rate is tumbling among many groups. And it seems to be true that the same class of people who formerly used little or no alcohol as a beverage, but who now are pretty good drinkers, are the same people who are practicing birth control most intensively. We have in mind the better type of citizens who, for psychological and traditional reasons, are unamenable to oppressive laws and are inevitably bound to circumvent them and ultimately to defeat them. —Editorial, New York Medical Times.

Are we approaching the time when what we wish to do we must first prohibit—preferably by an amendment to the Constitution?

Some Influences of Air Pressure Upon Health—Newspapers recently made a first-page story about certain fish that exploded when brought rapidly to the surface from their normal habitat in the depths of the ocean.

Physicians in the tropics recognize altitude disease or hill diarrhea as being produced by sudden changes in air density. Altitude or rarefied air disease also is an authenticated trouble among aeroplane operators, and similar disturbances have been recognized as mountain sickness for untold centuries. Compressed-air troubles or caisson disease, as it was once known, is also of increasing prevalence, due to changing industrial conditions. It was found that workers in the steel caissons used in pushing the tunnels under the river at New York had to be removed from the high pressure under which they worked in the caissons to normal air by slow, easy stages, in chambers of gradually reducing air pressure, otherwise their joints puffed up like air balloons, the pain was terrific, and other troubles ensued.

The influence of air density upon health is a subject of growing importance. Worthwhile literature is being published and a rather extensive literature is already available to those who care to look in out-of-the-way places for it. However—and this is the point of this note—conservative physicians will be cautious in applying plausible theories and in utilizing theoretical possibilities about the influences of air pressure in the treatment of human beings. Above all, investigate before investing money in schemes calculated to make money and serve the public by utilizing air density in unproved fields.

Hollywood Hospital—In this and subsequent issues of CALIFORNIA AND WESTERN MEDICINE a dignified announcement of the Hollywood Hospital will be found in the advertising pages. This splendid type of hospital is one of a growing number that have been promoted and developed by forward-looking citizens in various centers throughout this state. Prominent physicians of the Hollywood section of Southern California and prominent non-medical citizens have pooled their interests and are expressing modern health service through this fine institution, which is fully accredited by our state and national accrediting bodies.

Those who constantly consult the physicians' directory will find several new names added this month. H. J. Templeton has recently opened offices in Oakland, and is limiting his practice to dermatology and syphilology. Thomas E. Gibson has opened offices in the Flood building, San Francisco, and will limit his practice to urology; while Thomas J. Clark and F. H. Stibbens, Oakland, limit their practice to dermatology, syphilology, and genito-urinary diseases.

Ford Hospital has created a mild sensation in medical circles by throwing away its price list for human

repairs and parts. The Ford staff has been officially informed that the flat-rate system of charging for the treatment of human ailments has been abandoned and that "the patient's charges will be on an income basis," which is the customary method of the medical profession as a whole in making charges.—Ohio State Medical Journal.

Why Mr. Ford has abolished the fee system on which he has operated for ten years is not publicly stated; but the fact is that, besides the millions he has put into his hospital, he has had to make up a deficit of $2,400,000 in that period. It is a reasonable assumption that, by charging his patients according to their income, he expects to get more business from people who could not afford to pay his fixed fees and to reduce his annual deficit. Mr. Ford's experience seems like a fair vindication of the ancient fee system of the medical profession. —Detroit Saturday Night.

The State Controller concludes that $10,000,000 of tax money was spent in official charity last year.

Quite a tidy sum, but less than was spent through "voluntary" organizations. Both together is less than was contributed by individuals privately.

Charity as a government function and as Big Business is growing by leaps and bounds, but at the same time it is losing its savor, without which its future may be predicted with certainty.

Comfortable Chairs for Convalescents—Sonnenschein Brothers' advertisement of a chair to meet this very important need in serving the sick is carried in this and subsequent issues of CALIFORNIA AND WESTERN MEDICINE. This chair may not satisfy everyone, but it is receiving commendatory endorsement from several of our California hospitals. We commend its consideration to doctors who consider the comfort of their patients as contributing to successful treatment.

According to official figures, California counties spent over one and a quarter million of dollars for sheriffs' expenses; over half a million more for constables and over five millions for courts.

They spent less than one-third of a million for health.

Who wouldn't rather be a peace officer with a pull than a health doctor for ten dollars a month?

According to "official figures" recently featured in the public press:

Influenza killed 604 Californians last year. Motor cars beat the influenza bacillus all hollow by killing 1254.

Scarlet fever only completely destroyed 106 (all children), but murderers got 374.

Cancer caught up with 5120 of our people. Automobiles, railroads, machinery, assassins' bullets got 2211.

Altogether, the death rate of 1452 per hundred thousand was eighteen points higher than it was the year before.

The most interesting feature of these statistics is that the death rate from causes that everyone can see and understand increased more sharply than in those diseases of more obscure causes.

If it is more "health education" our people need, what about applying it to possible victims of motor cars? It is easier to avoid motor cars even on Market street, San Francisco, or Broadway, Los Angeles, than it is to avoid influenza germs or cancer.

Niles Home for the Aged—Many doctors undoubtedly will be glad to see the dignified statement of the Niles Home for the Aged, which will appear hereafter in the advertising pages of this magazine. It is a sign of better times and an advance toward things as they ought to be when institutions designed to conserve health and to care for the aged realize the value of holding an accredited standing before medical organizations.

Spring water will be delivered to your office or home by the Purity Spring Water Company, whose announcement begins this month in our advertising pages, and will continue throughout the year. We are glad to add their name to our list of advertisers handling good water and marketing it in an ethical manner.

In his propaganda for the laudable purpose of arousing the citizens of Orange County to the importance of having all children immunized against smallpox and diphtheria, the county public health doctor says: *"There is absolutely no harm in these vaccines. They are thoroughly sterilized before using, and there are no live germs in them."* (Italics ours.)

This statement has called forth protests from non-medical citizens and from physicians. The former ask the Better Health Service *if they are compelled to patronize these tax-supported free clinics instead of their family doctors.* Some of them ask why the family doctor is incompetent to render this service if it is as "simple and harmless as the clinic doctor claims." Physicians protest against the inaccuracy of the quoted statement, claiming that the unreliable assertion that smallpox vaccine "is thoroughly sterilized before using" is potentially harmful when uttered by doctors who know better.

THE WOMEN PHYSICIANS' CLUB OF SAN FRANCISCO was organized at a dinner held at the Bellevue Hotel, December 11, 1925.

All women physicians of San Francisco who hold an M. D. degree and who are licensed to practice medicine by the State Board of Medical Examiners of California were invited to take part.

There are 152 women in San Francisco who are eligible for membership; of this number 90 responded, 12 are out of the state, 3 were not located, leaving 47 unheard from.

The meeting was attended by 69 women physicians. Following the dinner, the necessary steps were taken for forming a permanent organization.

Dr. Adelaide Brown presided, and called upon Dr. Anna MacRae, who, with Dr. Agnes Walker, took charge of the arrangements, to call the roll of those present, asking each member as her name was called to rise, repeat her name and give her college; to this was added, in the spirit of fun, her year. This brought about much applause, particularly as all parts of the United States were represented, as well as Russia, Siberia, and Paris.

The years, beginning with Dr. Lucy Wauzer (1876), and Dr. Emma Merritt (1881), both of which were enthusiastically received, down to our infants of 1925, which caused almost as much enthusiasm.

Dr. Louise Deal gave a short account of the formation of the club.

Dr. Eva C. Reid presented a "Constitution and By-Laws." This was read aloud twice and, while it was being discussed, Dr. Brown appointed a nominating committee, consisting of Doctors Walker, Flynn and Atkinson.

Upon return of this committee the following report was given: President, Louise B. Deal; Secretary-Treasurer, Edna Barney; Executive Committee—Eva C. Reid, Eileen Leonard, Mary Glover.

A vote was taken upon this ticket and carried. Dr. Brown, in a very gracious speech, installed Louise B. Deal as President.

The Constitution and By-Laws were then voted upon and accepted.

Dr. Bertola was called upon for a speech, the subject of which was the affiliation of the Women Physicians' Club of San Francisco with the State Federation of Women's Clubs. This was later discussed and unanimously carried. The President appointed Dr. Frieda Kruse, Chairman of a Committee on Music.

Those present were: DoctorsJennie Anderson, Arthurs, Ash, Atkinson, Barney, Bertola, Boerke, Boldemann, Botsford (detained), Bridgeman, Brown, Bruckman, Buckley, Byrne, Campbell, Crabtree, Culver, Davis, Damkroeger, Deal, Donovan, Duggan, Eaton, Feeley, Flynn, Gifford, Glover, Alice Goss, Gulbrandsen, Genung, Mary Harris, Holsclaw, Noble Haven, Jolius, Keys, Kruse, Lafontaine, Leonard, Loveless, McKellips, MacRae, Mahoney, Kuleav Maximova, Elizabeth Maximova, Merritt, Mentzer, Morris, Macomber, Maxwell, Piper, Pettis, Perillat, Reid, Rethwilm, Richter, Schulze, Selling, Shimkin, Siebe, Spriggs, Stadtmuller, Stark, Stevens, Strickler, Taber, Take, Torrey, Agnes Walker, Wanzer, Winslow, Wright, Willits, Wood, Goldman, Watkins (detained).

Unable to attend, but expressing a desire to join: Doctors Owen, Pope, Cornell, Trimmer, Scott, Beebe, Hewitt, Simon, Reghetti, Malpas, de la Hautiere, Lynn, Sanborn.

California Medical Association

EDWARD N. EWER, M. D., Oakland.....President
W. T. McARTHUR, M. D.....President-Elect
EMMA W. POPE, M. D., San Francisco.....
.....Secretary and Associate Editor for California

As CALIFORNIA AND WESTERN MEDICINE goes to press, we learn the sad news of the sudden death of Doctor T. C. Edwards of Salinas. In the passing of Doctor Edwards the California Medical Association has lost one of her most dearly loved and honored members; one who combined the highest type of professional service and integrity with the broadest understanding and sympathy with humanity. Doctor Edwards has left a rich heritage of exemplary service that will be a constant inspiration to all who knew him.

A full account of the life of our former loved President will appear in the February issue.

ALAMEDA COUNTY

Alameda County Medical Association (reported by Pauline S. Nusbaumer, secretary)—The regular monthly meeting of the association was called to order by the president, H. B. Mehrmann November 16, at 8:15 p. m. L. P. Adams and F. B. Taylor reported a case of benign obstruction of the esophagus over a period of forty years. The following program was then presented by the staff of the United States Veterans' Bureau, Hospital No. 102 (by invitation):

A. O. Sanders in his paper, "Metallic Tinkle," said in part: Some textbooks on physical diagnosis still give the metallic tinkle as diagnostic of Laemnec's triple lesion: (1) Pneumothorax or pulmonary cavity with (2) open bronchus and (3) fluid or effusion. Of a series of forty-four cases of pneumothorax, most of whom he observed from two to eighteen months, making frequent physical examinations of chest and checking by x-ray, ten cases were of spontaneous and thirty-four were of induced pneumothorax. Of the ten spontaneous pneumothorax cases, metallic tinkles were heard in six, one of which had no demonstrable fluid. Of the thirty-four cases of induced pneumothorax, metallic tinkles were heard in twenty-four, though in sixteen of these twenty-four cases no fluid could be demonstrated either by physical examination or by x-ray. In one case of complete collapse of the left lung with no demonstrable fluid, clear, bell-like tinkles were heard exactly synchronous with the heart beat. In several cases of induced partial pneumothorax, further collapse being prevented by firm pleural adhesions, typical moist rales were heard over the adherent diseased lung; and as the stethoscope bell was moved off the margin of the adherent lung, the rales could still be heard, more faintly, but with an added metallic quality. As the stethoscope bell was advanced gradually away from the adherent lung and over the pneumothorax cavity, these sounds became unmistakable metallic tinkles. In his conclusions the doctor stated that it would appear, from observations of the forty-four cases here reported, that metallic tinkles in pneumothorax are not confined to cases with open bronchus and effusion. Metallic tinkles were heard in cases of induced pneumothorax, with neither fluid nor open bronchus. It would also appear that metallic tinkles may be produced in pneumothorax by sounds arising from distinctly varied sources, the most frequent being rales from adjacent diseased lung tissue.

S. E. Stroube in his paper, "Some of the Gastro-intestinal Complications Occurring in Pulmonary Tuberculosis," discussed tuberculous conditions occurring about the mouth, including the oral mucosa, tongue, salivary glands, esophagus and pharynx under one head, giving a brief description of the gross pathology, frequency of occurrence, palliative and surgical treatment, and indications for each. The doctor stated that gastric tuberculosis is seen very rarely, occurring in three forms, chiefly: (1) Miliary tuberculosis of stomach; (2) tuberculous ulcer of stomach; (3) tuberculous granulation tumors. Each form was discussed, symptoms and differential diagnosis, with special reference to malignancy, syphilis, and peptic ulcer. Emphasis was placed on the fact that x-ray is the one most reliable diagnostic factor. Under treatment, dietetic and hygienic measures and surgical relief were discussed and indications for each outlined, four cases coming under the writer's care being included in the discussion. Tuberculosis of the liver and gall-bladder was mentioned as being frequent, but rarely, if ever, diagnosed except at autopsy. Intestinal tuberculosis was considered the most frequent of all complications occurring in pulmonary tuberculosis, being present in approximately 90 per cent of cases coming to autopsy. That it was practically always secondary, being rarely, if ever, primary and most frequently found in cecum, ileum, and, to a less extent, in the jejunum and colon, a frequent finding being the hyperplastic form in region of the ileo-cecal valve, causing symptoms of obstruction. Diagnosis is difficult, as all the usual symptoms are often present and, at autopsy no tuberculous enteritis found, due to the fact that the same group of symptoms occur so frequently from toxemia, intestinal catarrh, and improper diet. Here, again, the x-ray will be found the most reliable finding on which to base diagnosis. Diet, medication, surgery, and heliotherapy were discussed as to relative value and indications for each in treatment, heliotherapy being considered the treatment of choice in the majority of cases, with the others as adjuncts, as indicated. The writer claims that tuberculous peritonitis occurs much more often than supposed, not diagnosed. Three chief forms (1) miliary, 70 per cent of cases; (2) chronic adhesive, 25 per cent of cases; (3) chronic ulcerative, 5 per cent—condition seen frequently in acute miliary tuberculosis, but rarely associated with chronic pulmonary tuberculosis. Mode of infection may be blood, lymphatics of pleura or pericardium, mesenteric lymph glands, tuberculous lesions, urogenital system. Treatment consists chiefly of heliotherapy with laparotomy in selected cases, together with hygienic measures. The conditions occurring about the rectum, associated with pulmonary tuberculosis, including ischio-rectal abscess, fistula in ano and fissure of the anus were covered rather thoroughly, especially in reference to treatment. All of these conditions are found very frequently associated with pulmonary tuberculosis, which consequently has considerable bearing on the choice of treatment and the prognosis. As a rule, fissure responds to the ordinary treatment for this condition, but even here you occasionally find a case will not heal. The other two conditions, as a rule, will not heal as long as there is active pulmonary involvement.

Basis of the paper, "The Relative Value of Roentgen Ray and Physical Findings in the Diagnosis and Treatment of Pulmonary Tuberculosis," by L. H. Fales, was the comparison of the roentgen ray and physical findings of patients admitted to U. S. Veterans' Hospital, No. 50. Total number of cases compared, 411. Found to be tuberculous, 245, or 60 per cent. Found to be non-tuberculous, 122, or 30 per cent. Classified as observation cases, 44, or 10 per cent. Of the 245 definitely tuberculous cases, 222, or 90 per cent, grossly agreed as to roentgen ray and physical findings, so far as coming to the same conclusions as to classifying the case. Physical findings and roentgen ray were quite definitely the same in 124, or 50 per cent. The roentgen ray evidence was more extensive in 88 cases, or 36 per cent. Physical signs predominated in 12, or 5 per cent. In 17 cases, or 6 per cent, there was roentgen ray evidence, but no definite physical signs. In 4 cases, or 1½ per cent, there were physical signs, but no roentgen ray findings. In 11 per cent the roentgen ray showed involvement of the second apex, which was not shown by physical findings. Cavitation was demonstrated by the roentgen ray in 90 cases, or 36 per cent. In only 28 of these 90 cases, could cavitation be found by physical signs alone. Rales were found in 1.6 per cent of cases having peribronchial infiltration alone, while they were present in 93 per cent of cases showing a parenchymal infiltration. Of the definitely tuberculous cases, 66 per cent had positive sputum. Of

the cases having both a roentgen ray lesion and medium rales, 69 per cent had a positive sputum. Of the cases with parenchymal roentgen ray lesion, but no physical signs, 53 per cent showed positive sputum, while of those showing physical signs, but no roentgen ray findings, all had negative sputum. Deductions from the comparison: 1. The roentgen ray is many times more efficient than physical findings in detecting cavitation. 2. A parenchymal roentgen ray lesion without physical signs is of great significance, for 53 per cent of such cases showed positive sputum. 3. Physical signs without a parenchymal roentgen ray lesion are of very doubtful significance, for all had a negative sputum. 4. Peribronchial infiltration is of no importance in diagnosing pulmonary tuberculosis, as it was not found in any case in combination with positive sputum. 5. Parenchymal infiltration, on the other hand, is of great importance, for 68 per cent of such cases had positive sputum. 6. In a certain percentage of cases the roentgen ray will show a lesion not demonstrated by physical signs, as proved by the above comparisons, there being 11 per cent of cases with involvement of the second apex not shown by physical signs. 7. The roentgen ray more often presents a greater involvement (36 per cent) than is shown by physical signs (5 per cent). 8. A parenchymal roentgen ray lesion and rales usually occur together, this combination taking place in 93 per cent of the above series, while peribronchial infiltration and rales are almost never found in combination, occurring in only 1.6 per cent of cases. The great importance of the roentgen ray in depicting lung pathology, as compared with physical findings, was dwelt upon at some length in the paper. In this connection the great significance of Colonel Bruns' paper on "Parenchymal Rales," in a recent number of the Journal of the American Medical Association, was emphasized, the main point being that rales, as usually heard in pulmonary tuberculosis, are not, as formerly supposed, due to moisture in the bronchioles and small bronchi, but are atelectatic rales, the partial collapse of the parenchymal alveoli being caused by pressure from the adjoining tuberculous infiltration, the rales often remaining the same whether it be an active, a fibrous, or a healed lesion.

Conclusions. 1. The roentgen ray is of at least equal importance with physical findings in diagnosing pulmonary tuberculosis. 2. The roentgen ray is the most important means of determining the existing pathological condition of the lungs. 3. Serial roentgenograms, taken from two to six months' intervals, portray before our eyes the ever-changing pathology of the lungs of the tuberculous, thus giving us an insight as to the progress and prognosis, which can be obtained in no other way. 4. The time is at hand when the clinician must be trained (as Dunham expresses it) in the "roentgenoscopic pathology of the lungs." It is just as important that he make his own roentgen ray interpretations as it is that he make his own physical examinations. 5. If we are to make the roentgen ray of real value, we must discard the idea that peribronchial thickening, when it reaches the periphery, and infiltration of the hilum have any significance in the diagnosis of pulmonary tuberculosis. Clinicians and roentgenologists who still believe in this theory are causing much confusion and misunderstanding and have brought great disrepute on the true value of the roentgen ray. 6. It is urgently important that all staffs of tuberculosis hospitals adopt a uniform, pathological anatomical classification that can be used conjointly by the clinician, roentgenologist, and pathologist. 7. On account of the great value of the roentgen ray, it is of doubtful expediency for tuberculosis sanatoriums to limit the use of roentgen ray films. Their more extensive use should be encouraged, for the greater efficiency attained would save the extra expense many times over. 8. If we are to progress in the knowledge of tuberculosis, it is imperative that every effort be put forth to obtain permission to perform more necropsies. To increase our proficiency we must not only compare the actual pathology with the roentgenoscopic pathology and physical findings, but we must know, by actual study, the ever-changing pathological picture which is so essential to a thorough knowledge of tuberculosis. These papers were discussed by H. Van Horne, E. A. Montague, E. A. Beaudet, and Chesley Bush.

After the conclusion of the program and the transaction of business, C. L. McVey offered the following tribute to the late J. W. Legault: The doctor's sphere lies not alone in medical service. His life is patterned to fit the mould of all encompassing fraternity. "Non Solum Nobis." In this spirit and at this hour we solemnize the departure from our group of one who served most faithfully his patients and his friends.

Doctor Joseph William Legault was born at St. Marthe, Canada, January 28, 1867. He received his preliminary education in Canada, and was graduated from Victoria College in the year 1890. He came for the first year of his practice to Washington. Thence to Oakland, where he continued in active practice for a period of thirty-four years.

It was my privilege to know Dr. Legault, both as a co-worker and as a friend. His ideals were of the highest, and his attention to the details of practice unstinted.

> "Man is his own star, and the soul that can
> Render an honest and a perfect man
> Commands all light, all influence, all fate;
> Nothing to him falls early, or too late.
> Our acts our angels are, or good or ill
> Our fatal shadows that walk by us still."

He was modest and retiring by nature, yet forceful and ready to meet the day's obligation. Hidden in the background, he carried a ready wit. He made a friend and kept him, and sought not after the plaudits of the multitude.

> "And, when the stream
> Which overflowed the soul was passed away,
> A consciousness remained that it had left
> Deposited upon the silent shore
> Of memory, images and precious thoughts
> That shall not die, and cannot be destroyed."

The meeting then adjourned, out of respect to the memory of Dr. Legault.

KERN COUNTY

Kern County Medical Society (reported by Keith S. McKee, secretary)—At the November 19 meeting of the Kern County Medical Society the following officers were elected for the year 1926: Keith S. McKee, President; E. A. Schaper, Vice-President; L. C. McLain, Secretary-Treasurer; William H. Moore, Censor; F. A. Hamlin, Delegate; and F. J. Gundry, Alternate.

A very successful and pleasant meeting was enjoyed by sixteen members of our society, who saw Doctor LeRoy Brooks of San Francisco demonstrate a new technique on blood transfusion, followed by a lecture on the same subject.

It might be of interest to add that our October meeting was the first one held in the new Kern General Hospital—a county institution built at an expense of three quarters of a million dollars. The meeting was very well attended, and Doctor Joe Smith, superintendent, took the members on a tour of inspection from one end of the building to the other, giving us a fine feed at the finish. Kern County has a hospital of which it can well be proud, as it is thoroughly modern to the nth degree.

MARIN COUNTY

Marin County Medical Society (reported by J. H. Kuser, secretary)—A meeting was held at W. F. Jones' office on November 19, 1925. The meeting was opened by H. O. Hund, president, and the following members answered the roll call: H. O. Hund, C. W. Clark, F. M. Cannon, L. L. Stanley, W. F. Jones, A. H. Mays, G. M. Landrock, C. A. DeLancey, Charles B. Marston, C. W. Larson, and J. H. Kuser.

In order to comply with the request of the State Society to furnish the names of officers and delegates by the first of December, other business was suspended and the nomination and election of officers proceeded, which resulted in the following officers for 1926: President, George M. Landrock; Vice-President, Charles B. Marston; Secretary-Treasurer, J. H. Kuser; Delegate, H. O. Hund; and Alternate, C. A. DeLancey.

Motion was made and seconded to hold the annual banquet at the Hotel Rafael on January 28 at 6:30 p. m. Carried, and further arrangements left to the secretary, each member to be allowed to bring a guest.

ORANGE COUNTY

Orange County Medical Association (reported by D. R. Ball, secretary)—The society has held a number of meetings of unusual interest since the summer recess. The programs have been supplied largely by visiting men, and the talks have been most practical, many of them being in the form of illustrated demonstrations.

At the September meeting A. E. Belt of Los Angeles talked on "Urinary Calculi." He showed a series of roentgenograms of stones in various parts of the tract, and gave brief outlines of the cases represented. In October a very excellent program was provided by members of the Riverside County Society. B. O. Adams gave a talk on "Some Observations of Foreign Clinics," the material for which was obtained in a recent trip abroad made as a member of the tour conducted by the Post-Graduate Assembly of America. W. W. Roblee spoke in an interesting manner on "What Do We Know About Arterial Hypertension. The November meeting was devoted to obstetrics, Bessica Raiche of Anaheim speaking on "The Value of X-ray in Pregnancy," and Sterling N. Pierce of Los Angeles speaking on "Low Cervical Caesarean Section." The first talk was illustrated by x-ray films, and the second by a beautiful series of slides. In December A. E. Gallant of Los Angeles, who is conducting the orthopedic work at the Orange County General Hospital, presented "Some Interesting Cases of Spinal Ankylosis."

The meetings of the Santa Ana Clinical Society have been no less interesting. In September Irving Sutton of Hollywood gave a lantern slide demonstration of interesting cases of syphilis in its various stages. In October we were entertained most delightfully in the home of our president, Dr. Bessie Stokes Martell. On this occasion the talk was provided by Phillip Edson of Pasadena on the new phenoltetrachlor-phthalein method of visualizing the gall-bladder. In November a popular meeting on diphtheria was conducted, at which W. H. Kellogg of the State Board of Health spoke to a large audience.

Officers for the new year were elected at the December meeting of the County Association, as follows: President, Bessie Stokes Martell, Santa Ana; Vice-President, D. C. Cowles, Fullerton; Secretary-Treasurer, D. R. Ball, Santa Ana; Librarian, C. D. Ball, Santa Ana; Delegate, R. A. Cushman, Santa Ana; Alternate, Harry E. Zaiser, Orange; Censor (1926-28), F. E. Coulter, Santa Ana.

New members include B. B. Mason of Laguna Beach, C. O. Petty of Fullerton, and V. G. Presson of Santa Ana.

A campaign for toxin-antitoxin immunization against diphtheria is being carried on in the schools of the county by Dr. V. G. Presson, County Health Officer. About one thousand children will have been immunized by the Christmas holidays, and it is expected that a like number will be handled after that time.

Memorial to William Freeman

Died in Fullerton, California, June 29, 1925, age 84. Born in Medino County, Ohio, June 6, 1841. Education, common schools, Auburn Academy of DeKalb County, Indiana; Cincinnati School of Medicine, M. D., 1867. California certificate, 1895.

He enlisted September 5, 1861, Company H, Indiana Volunteer Infantry. He was twice wounded: first, in battle at Stone River, a gunshot wound through the hand, and again at Chickamauga, when the bullet passed through his body. He was discharged because of this wound, and resumed his studies that had been interrupted by the war.

After graduation Doctor Freeman practiced in Vevay and Madison, Indiana, until 1894, when ill-health (asthma) compelled him to locate in San Diego. About two years later he removed to Fullerton. Joined the Orange County Medical Association in 1899. President of the society in 1903. Later he affiliated with the State Medical Society and became a Fellow of the A. M. A.

Dr. Freeman was a staunch Republican and took a keen interest in politics. He was an acknowledged leader in the party.

PLACER COUNTY

Placer County Medical Society (reported by Robert A. Peers, secretary)—This society held its annual meeting at the Placer County Hospital in Auburn Saturday evening, December 12, at 8 o'clock.

There were present the following members and visitors: Members—Doctors H. N. Niner, C. J. Durand, H. M. Kannar, W. L. Whittington, G. H. Fay, R. A. Peers, R. H. Eveleth, J. G. Mackay, C. E. Lewis, J. A. Russell. Visitors — Doctors M. E. Thoren and R. J. Nicholls.

This being the annual business meeting, no literary papers were presented.

The following physicians were elected to membership in the society: Mildred E. Thoren, Daniel H. Pettingell, Weimar; Carlyle M. Pearce, Colfax.

The following officers and delegates were elected to serve for the society for 1926: President, J. A. Russell, Auburn; Vice-President, R. H. Eveleth, Roseville; Secretary-Treasurer, Robert A. Peers, Colfax; Associate Secretary, Charles J. Durand, Colfax; Delegate to State Medical Society, H. N. Miner; Alternate, R. H. Eveleth.

Dr. Robert F. Rooney of Auburn was appointed as a representative of Placer County on the Committee on the History of Medicine of the California Medical Association.

The following physicians were elected, subject to approval of the Council, as affiliate members: Robert F. Rooney, Auburn; J. S. Wheeler, Lincoln.

The matter of Optional Medical Defense and various communications from the State Association were discussed.

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SACRAMENTO COUNTY

Sacramento County Medical Society (reported by Bert S. Thomas, secretary)—The last scientific meeting of the year of the local society was held at the Sacramento Hotel on November 17. There was an attendance of thirty-seven to hear two live topics discussed by G. Parker Dillon and Edward W. Beach.

The minutes of the October meeting were read and approved after Harris added a word of praise to one of the officers.

Case Reports — Gundrum reported the peculiar incidence of the fifth attack of herpes zoster, with the identical distribution in each attack, in a middle-aged woman. The offending nerve-root in each instance was the fifth right dorsal.

Papers of the Evening—"Cancer of the Rectum," by G. Parker Dillon. Eighty per cent of all cancers of the rectum may be diagnosed by either sight or feel, 5 per cent of them being within reach of the examining finger, plus 30 per cent of them being within clear sight in a proctoscope. No particular cause may be assigned for the etiology of the growth, any more than cancer in other locations. However, the question of trauma, hardened fecal material, ulceration and cicatricial tissue formation may be accentuated.

The most important early symptoms in order of their importance are, constipation, bleeding, and pain. Diarrhea, tenesmus, tumor, alternation of diarrhea and constipation, incontinence, and emaciation may appear as individual complaints, or collectively. The mode of spread is by contiguity, through the lymph channels and through the blood. The spread through the lymph channels closely follows the three lines of blood supply—the superior hemorrhoidal, the inferior mesenteric, and middle hemorrhoidal.

The most lamentable feature connected with cancer of the rectum is shown by statistics prepared by Fiske Jones of Massachusetts General Hospital. Seventy-five per cent of the cases of cancer of the rectum treated there have been previously treated for either hemorrhoids, persistent diarrhea, or constipation.

Examination should first be digital, then bi-manual examination in the Trendelenburg position, glandular palpation, external palpation, examination of the feces for blood and mucus, and, last, a check-up by means of a barium enema and a radiogram.

There are several things in the differential diagnoses to be kept constantly in mind: pedunculated polyps, mov-

able benign tumors, inflammation in adjacent structures, tuberculosis of the hypertrophied form and specific lesions.

There is a question of the value of biopsy. Dillon believes that if cauterization is immediately done no danger will follow.

Statistics seem to indicate, despite the fact, of course, that reports are more numerous and more exacting that cancer of the rectum seems to be on the increase.

In the discussion Rulison briefly reviewed the increasing opportunity of surgical possibilities in the condition; whereas only 25 per cent of cancers of the rectum were operable with the old Kraske method, now 60 per cent may be placed in the operable class by attacking them through the abdomen—perineal route. Even now, the appallingly few 2-3-5-year cures may be measurably increased by adopting the slogan, "Get them early." At present, we may, in round numbers, report 22 per cent of three-year cures, in contrast to but 4 per cent with the old method. Harris pointed out the excellent work being done by the institution of cancer stations in France, where people may be thoroughly examined who fear the possibility of cancer. Pamphlet education, to instruct the population when to report to these stations, is being conducted by the French League for the Control of Cancer. This instruction is being accentuated to the profession also through the medium of regular articles on the subject in the "Presse Medicale." Harris stresses the value of the electrically lighted pneumatic proctoscope; also, to completely section any cases of multiple polyposis.

Gundrum stated that if we *think* "cancer of the rectum," we'll pick up more cases. In closing, Dillon repeated, "Use your examining finger."

"Some Points in the Treatment of the Neisserian Infection in the Male," by Edward W. Beach. Prophylaxis: retraction and scrubbing with green soap will take care of chancroids and Cabot's disease. (The latter is rather common in the West, though rare in the East.) Injection of 1-5000 acriflavine, sealing it in the urethra by means of collodion suffices for gonorrhea, while 50 per cent mercurial ointment rub is applied for lues.

About 40 per cent of gonorrhea seen in the first few days may be aborted by the daily injection of 1-5000 neutralized acriflavine prepared in salt. Even in those cases not aborted, this treatment is sure to cut down the amount of discharge, and so, in addition, helps psychically in the start of treatment. Stronger solutions produce bands. Any treatment which increases the irritation is bad. Beach often daily alternates 1-5000 permanganate with acriflavine. Outside the office, one-half per cent protargol is utilized. He sees no particular value in the use of such drugs as sandalwood oil and methylene blue, but, since the irritation is due to two factors, an irritated urethra plus a high concentration of the urine, he simply employs the use of large quantities of water in addition to local treatment. As to restriction of food, only those foods which burn the mouth are ruled out. If, at the end of a few weeks, posterior urethral symptoms include tenesmus and the showing of some blood, Beach withdraws all local treatment and employs hot Sitz baths, rectal irrigations and sedatives, such as opium and belladonna suppositories. Later, 1-3000 mercurochrome through and through irrigations are of value. No cure is obtained until the urethra is shown to be absolutely pus-free.

The type of shreds may aid in the location of the irritation. Long floating ones are urethral shreds; comma-shaped ones that float are from the glands of Littre; ball-shaped, sinking shreds come from the prostate. A common point of neglect in the treatment of chronic complications, such as the "morning drop," is the usual lack of finding out the exact point from which this "drop" arises. This localization of the origin of the trouble is as important in this particular disease as in any other disease entity. In this particular instance the "morning drop" usually arises from a localized anterior urethritis. Dilatation plus silver salts is the treatment. Another common mistake is the massaging of the acute prostate. Neither here nor in acute vesiculitis should massage ever be used.

In the discussion Wilder spoke of the great number of cases of residual posterior urethritis. Hale stated that the army experience showed the importance of immediate prophylactic treatment. In a large number of cases all prophylactic treatment administered two hours after intercourse were successful; eight hours after, 10 per cent were infected; after that time there is a question whether the treatment is of any value at all. Dillon spoke of the army routine of years ago—simply putting the patient to bed and placing him on a milk diet.

Application for Membership—The applications of Clarendon A. Foster and Frank Warne Lee were read for the first time. After the second reading of the applications of Joseph L. Mullin, Angus McKinnon, and Norris R. Jones, a vote was taken. All were unanimously elected to membership.

The board of directors reported that, in the future, all notices will be sent in the official envelopes of the society. They also approved the automatic appointment of the president of the medical society to officiate as a member of the Disaster Relief Committee of the Sacramento Chapter of the Red Cross.

Communications—The communication from the secretary of the California Medical Association, in reference to the new forms for application in the constituent societies, and the new rules for transfer from one society to another, was read.

Under Old Business—Parkinson called attention to the fact that the Red Cross was again asking $20,000 for work that is, without question, merely a reduplication of effort. However, he agrees thoroughly with the president's opinion that the men and women who are doing the work thoroughly believe that they are engaged in a real endeavor; further, that they will be able to raise the money.

Parkinson, Drysdale, Scatena, Yates, Rulison, and Dillon spoke on optional medical defense. Attention was called to the fact that there are but 500 members of this optional defense fund at the present time. They need 1500 to properly function. If this number is not reached, it probably means that our present unequaled legal talent will be lost, with the likelihood of their affiliation with other insurance companies. This not only means a vital loss to the local profession, but presages a raise in the insurance rates. The probable reason for the lack of local support was offered as follows: First, there has been a fortunate immunity from suits here; this cannot last. Second, the men in this vicinity are likely covered for a greater amount than the average man throughout the state. It was advised that applications for this optional medical defense be enclosed with the December meeting notices.

SAN BERNARDINO COUNTY

San Bernardino County Medical Society (reported by E. J. Eytinge, secretary)—A meeting was held on December 3 at the County Hospital.

Letter from Dr. Ross Moore, relative to malaria, read. The question of the official A. M. A. auto emblems was taken up, and it was decided to issue a questionnaire in regard to this matter to be reported on as part of the next program. The first reading of the proposed change of the Constitution and By-laws was carried out, and a vote will be taken at the next meeting.

Communication from Dr. Higbee, relative to the lectures in physiology by Professor Sewall, to be given in San Diego, was read.

Luncheon was served at 11 o'clock.

About forty were in attendance.

Program of the evening was as follows:

"General Use of Obsteric Forceps," by John Vruwink, Los Angeles. Vruwink, being unable to be present, was represented by Dr. Thompson of Los Angeles. Discussion opened by C. P. Engel.

"Cervical Caesarean Section, With Special Consideration of Local Anesthesia, and the Porro Operation," by Stanley N. Pierce, Los Angeles. Discussion opened by Howard Hill.

SAN DIEGO COUNTY

San Diego County Medical Society Notes (reported by Robert Pollock)—The annual election of the County Medical Society and the Medical Library Association on December 8 returned the following officers and directors:

Medical Society—President, Mott H. Arnold; Vice-President, C. O. Tanner; Secretary, William H. Geistweit, Jr.; Treasurer, J. C. E. Nielsen. Council: W. M. Alberty, J. F. Grant, D. R. Higbee. Delegates (two-year term): J. C. Yates, G. B. Worthington, Mott H. Arnold. Alternates (two-year term): Thomas O. Burger, E. F. Chamberlain, D. R. Higbee. Milk Commission (five-year term): A. B. Wessels. President-Elect Arnold has not as yet announced his committees for next year.

Medical Library Association—Directors: Frank Carter, B. F. Eager, W. H. Geistweit Jr., C. E. Howard, L. Strahlmann, D. R. Higbee, W. S. Keyes, A. H. Gilbert, Robert Pollock, L. H. Redelings, W. O. Weiskotten, Harvey Stallard. Secretary-Treasurer, John C. E. Nielsen.

Following the election the society dined at Ye Golden Lion Tavern, where a few hours were profitably spent on an excellent turkey dinner, with the sauce of good fellowship and the mental stimulus of a scientific program of unusual interest. Dr. J. W. Sherrill reviewed the work done by Collip, in giving to the world the specific extract of the parathyroids. This work has been gone over and verified in every detail by Sherrill in his own laboratories at the Scripps' Metabolic Clinic, and he and Dr. Copp of his staff gave a very clear description of the present status of the extract as a practical therapeutical agent. Discussed by Copp and Sharp. Following this paper Willard J. Stone of Pasadena gave a very interesting talk on "Certain Aspects of Heart Disease," bringing out very clearly the nice differential points in diagnosis, behavior and prognosis of angina pectoris, aortic pain and coronary occlusion. Stone presented this subject in such a masterly way as to leave a very clear impression on the minds of his hearers. Discussed by White, Stealy, and Churchill.

On November 28 Arthur B. Cecil of Los Angeles discussed before the Naval Hospital Medical Staff the subject of vesical diverticula. Dr. Cecil is always a welcome guest in San Diego.

On November 24 the combined staffs of Mercy Hospital and the County General met at the latter institution and enjoyed an excellent clinical program presented by members of the house and visiting staffs.

On December 3 the medical staff of the Scripps Memorial Hospital held its second annual meeting in the comfortable reception-room of the new nurses' home. After a prolonged and spirited discussion of the problems of this our newest hospital a delightful luncheon was served by the management.

Two events of importance are planned for the early days of the new year: A course of lectures on physiology by Dr. Henry Sewell of Denver, whose appearance is made possible by a newly formed medical lectureship bureau; also the Scripps' Metabolic Clinic has invited Dr. William McKimm Marriott, Professor of Pediatrics in Washington University, St. Louis, who will discuss the nephroses. This address will follow a courtesy dinner to the medical profession at the Casa del Mannua, La Jolla, extended by the management of the clinic.

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SAN FRANCISCO COUNTY

The San Francisco County Medical Society (reported by J. H. Woolsey, secretary)—During the month of November, 1925, the following meetings were held:

Section on Medicine—Tuesday, November 3—Food idiosyncrasies—J. L. Whitney. The medical aspects of ten cases of homicide—Joseph Catton.

General Meeting—Tuesday, November 10—Symposium on Allergy: Theoretical considerations of hypersensitiveness—Karl F. Meyer. Practical experience versus theory—A. C. Reed. Clinical aspects of allergy—George Piness, Los Angeles.

Section on Industrial Medicine—Tuesday, November 17—Some significant factors in derangements of the shoulder-joint—L. D. Prince. Demonstration of special type of bed for orthopedic cases—R. L. Dresel.

Section on Eye, Ear Nose, and Throat—Tuesday, November 24—Demonstration of cases. A doctor's vacation—H. B. Graham. Indications for the various operations in glaucoma—Otto Barkan.

St. Joseph's Hospital Staff Holds Pediatric Symposium—St. Joseph's Hospital staff, San Francisco, discussed advances in pediatrics on December 9, C. F. Gelston opening with "Modern Diagnosis in Pediatrics," stressing the following:

The chlid is not a small adult, but has a peculiar anatomy and symptomatology. For this reason otitis media must be looked for in every child, especially when too sick for the other signs, as the etiology may be even from gastro-intestinal infections. In mastoiditis the pointing may be odd, also. The urinary tract often affords the solution of symptoms. Pyelonephritis, especially in girls, can cause all symptoms except the organism, in meningitis can produce a persistent fever, and in boys it often indicates a stricture of the ureter or abnormality of the kidney. A diarrhea should be investigated for the Shiga, Flexner, or other germ. Pyloric stenosis is peculiar to children and should be diagnosed early.

A. E. Meyers read a paper on "Progress in Treating Children," the following being a summary: Insulin is the greatest recent advance to benefit children. The addition of acid to milk, to compensate for the neutralization of its buffer contents, was suggested by Faber, who used HCl, and Marriott, who added lactic acid. Other important therapeutic advances are the use of white of egg, cod-liver oil and sunlight in rickets, allowing for correction of deformed legs without operation; the Schick test and toxin-antitoxin vaccination in diphtheria prevention; the scarlet fever work of Dick; the use of thick feedings in pyloric stenosis; the intravenous use of mercurochrome and gentian violet; the serum treatment in pneumonia; endocrine treatment, and convalescent serum therapy in poliomyelitis.

Dunlop Strickler reviewed the "Surgery of Children," with the following resumé: Adenitis is the most common complaint, although cervical glands are less encountered than before, due to the better attention paid to the surgery of the nasopharynx. Hernia, traumatic lesions, infections (as from nails and cuts), and appendicitis next follow in frequency. Chronic appendicitis is rare. The acute form is often associated with a history of cold and the giving of castor oil. Quartz light is used after appendectomy to prevent adhesions. Other operations in decreasing frequency are for empyema, with resection of ribs resorted to seldom; cleft palate, pyloric stenosis, transfusions, hydrocephalic tapping, and intussusception. In the latter, Murphy drip with Week's plan is used.

Ernst Gehrels discussed the two-stage operation for intussusception; Frank Lowe, the surgery of anterior poliomyelitis and correction of rachitic knee deformities with braces; C. O. Southard and Roy Parkinson, the aural and pharyngeal lesions; C. E. Nixon, the neurological considerations, and R. F. Grant and L. B. Crow the abdominal manifestations. Case histories were presented by C. D. Schoonmaker (cholecystectomy) and H. B. Dixon (gas phlegmon after tonsillectomy).

The election of officers for 1926 resulted in the renaming of A. S. Musante as president, Frank Lowe as vice-president, Louis Overstreet as secretary, and F. C. Keck as treasurer.

The program of January 13 will include an address on the "Taking of a Gastro-intestinal History and What It Means," by Walter C. Alvarez, who is leaving California to take up clinical work at the Mayo Clinic.

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SANTA BARBARA COUNTY

Santa Barbara County Medical Society (reported by Alex C. Soper, Jr., secretary)—A regular meeting was held at the Cottage Hospital, Monday, December 14, in the staff room, President Nuzum presiding. Fifteen members, three interns, and Dr. Merrill from Santa Paula were present.

Crayton C. Snyder of Pasadena read the paper of the evening, his subject being the rare one of "Bac. Aero-

genous Capsulatus Infection of the Liver." Discussion was participated in by Nuzum, Stevens, and Merrill.

Charles S. Stevens of Santa Barbara presented a rare tumor extirpated from a 12-year-old girl-child, the pathology lying between the dermoid and teratoma classification. Involving all the sexual organs, their complete removal was necessary. Lamb, Allen Williams, and Nuzum discussed.

Dr. Bakewell showed a new non-locking obstetrical forceps, and with a mannikin demonstrated its use.

John M. Van Paing, formerly of the Los Angeles society, and John B. Manning, formerly of the Kings County, Wn. society, were admitted to membership by transfer.

A letter from Mr. George Coleman, requesting endorsement of his work (the American Association for Medical Progress), resulted in a unanimous decision to give him a written endorsement, to be used as he sees fit; however, the question of physicians taking out membership in this lay society was considered debatable, and no formal action on it was taken.

A letter from the Metropolitan Life Insurance Company of San Francisco, offering the use of films for better health education, was ordered answered favorably, the films to be used at the society's annual banquet on January 11 next, and also offered to schools and other agencies.

SOLANO COUNTY

Solano County Medical Society (reported by John W. Green, secretary)—At the December 18 meeting of the Solano County Medical Society the following officers were elected for the year 1926: B. S. Leachman, President; A. V. Doran, Vice-President; and John W. Green, Secretary-Treasurer. John W. Green was elected delegate to the state convention, and D. B. Park, alternate.

CHANGES IN MEMBERSHIP

New Members—Charles C. Fulmer, Edwin F. Mott, Fresno; Mark Gerstle Jr., Ivan C. Heron, Albert E. Larsen, Burgess B. Mason, Herbert H. Schultz, San Francisco; Harold A. Morse, Hilt; Edward Parker Moser, Camino; Clyde G. Reynolds, Repressa; Hans Frank Schluter, Charles Israel Titus, Sacramento.

Transferred—Jesse W. Citron, from San Francisco County to Alameda County.

Szabo Kalman, from Alameda County to Siskiyou County.

Gayle G. Moseley, from Los Angeles County to San Bernardino County.

William E. Musgrave, from San Francisco County to Santa Cruz County.

Deaths—Gedge, Donald MacCulloch. Died at San Francisco, December 6, 1925, age 64. Graduate of Cooper Medical School, California, 1892. Licensed in California the same year. Doctor Gedge was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Low, Samuel P. Died at Santa Barbara, December 6, 1925, age 62. Graduate of Hahnemann Medical College and Hospital of Philadelphia, 1889, and licensed in California the same year. Doctor Low was a member of the Santa Barbara County Medical Society, the California Medical Association, and the American Medical Association.

Mallory, George W. Died at Santa Rosa, October 26, 1925, age 66.

GEORGE W. MALLORY
1860-1925

George W. Mallory, 65, prominent Santa Rosa physician and former educator, died at his home October 26, 1925, after an illness of three months. Death followed a stroke of paralysis.

He was born in Mexico, Missouri, received his early education in the schools of Montgomery County, Missouri, and later graduated from the University of Missouri. He came to California as a young man, and for several years was a school teacher.

Doctor Mallory received his Doctor of Medicine degree from the College of Physicians and Surgeons, San Francisco, 1900.

Guy A. Hunt, secretary of the Sonoma County Medical Society, says of Doctor Mallory, that he was a charter member of the Sonoma County Medical Society which, largely due to his efforts while he was secretary, attained the largest membership it has ever had. At the time of his death he was vice-president of the society.

He was a genial and optimistic physician who always greeted the stranger, as well as his friends, with a smile and a hearty shake of the hand. He was a true friend and upright in all his dealings. His interest in man was intense—a trait which is characteristic of every true physician.

Sonoma County Medical Society feels greatly the loss of one of its most prominent and valuable members.

CONSTITUTION OF THE C. M. A.

Second of two required publications of proposed amendment to be voted upon by the House of Delegates, 1926 session.

Amend the Constitution, Article III, to read as follows:

CONSTITUTION

ARTICLE III

Members and Guests

Section 1. Members—The members of the association are the members of the component county societies and include all the active, associate and affiliate members thereof. Every member of the California Medical Association (hereafter elected) must hold the degree of Doctor of Medicine from an institution of learning accredited at the time of conferring such degree by the American Medical Association, and must be elected to membership by the component county society of the county wherein

he resides and pay all dues to the secretary of his county society.

Sec. 2. Active Members — Active members shall be elected from those Doctors of Medicine licensed to practice medicine and surgery in the State of California who, in the judgment of the component county society of the county of residence thereof, are deemed of such ethical integrity as is required for such membership. (Except if he lives on or near a county line, a member may, with the previous written consent of the county of his residence, join the society of the county most convenient for him to attend, and such adjoining county shall be included in the term "county of residence" as herein used.)

Sec. 3. Associate Members — Associate members shall be elected from those Doctors of Medicine engaged in teaching or research work or holding position in federal service or otherwise who are not licensed to practice medicine and surgery in the State of California and hence are ineligible to active membership. These members shall have all the rights and privileges of active members, except the right to vote or hold office. Their dues to the State Association shall be one-half the dues of active members, and their dues to their county society shall be fixed by such county society.

Sec. 4. Affiliate Members—Affiliate members shall be elected from those Doctors of Medicine eligible for active membership, but who are, for any reason satisfactory to the county society and the Council of the State Association, entitled to special consideration. These members shall have all the rights and privileges of other members, except the right to vote or hold office. Their dues to the State Association shall be $1 per year, and their dues to their county society shall be fixed by such county society.

Sec. 5. Honorary Members—Honorary members of the California Medical Association may be elected by the House of Delegates.

Amend the Constitution, Article VI, Section 4, to read as follows:

ARTICLE VI

Officers

Section 4. No delegate, during his term of service as delegate, shall be eligible to any office named in Section 1 except that of councilor, and no person shall be elected president, president-elect, vice-president, and councilor who has not been a member of the association for two years preceding his election. Every delegate and alternate to the House of Delegates of the California Medical Association must have been a member of the association for one year prior to his election.

Amend By-Laws, Chapter I, Section 1, to read as follows:

BY-LAWS

CHAPTER I

Section 1. All members of county societies—active, associate, and affiliate—shall, by virtue of such membership, hold corresponding membership in the California Medical Association upon certification by the secretary of the county society of such membership, and receipt by the secretary of this association of the assessment for the fiscal year.

Amend the By-Laws, Chapter I, by adding a new section to be numbered 5, reading as follows:

Section 5. A member who changes his residence from the county through whose society he holds membership in this association to another county in which there is a county society, is eligible to membership in the component county society of his new residence on the presentation of a transfer card, and an official statement that his dues have been paid in full in the society in which he holds membership; provided that no evidence which would otherwise disqualify him for membership arise. He shall forfeit his membership in this association one year after change of location unless he becomes a member of the society of the county to which he has moved. Any member who has heretofore changed his residence, as aforesaid, shall have one year after the date of the adoption thereof to comply with the provisions of this section.

Amend the By-Laws, Chapter VII, Sections 4 and 14, to read as follows:

Section 4. Each county society shall judge the qualifications of its members. However, as such societies are integral parts of this association and all the basis of membership in the American Medical Association, it is necessary that the qualifications meet the minimum requirements of the state and national organizations. These minimum requirements are, that to be eligible for election as an active or affiliate member, the applicant must hold the degree of Doctor of Medicine from an institution of learning accredited at the time of conferring such degree by the American Medical Association, and must be licensed to practice medicine and surgery in the State of California. Every associate member must hold the degree of Doctor of Medicine from an institution of learning accredited at the time of conferring such degree by the American Medical Association, and must not be licensed to practice medicine and surgery in California and hence be ineligible to active membership. A member must not practice or claim to practice or lend his support, co-operation, or in any other way endorse any exclusive system of medicine or any person practicing the same. He shall be honorable and ethical in his conduct and shall subscribe to the principles of medical ethics of the American Medical Association, and shall recognize the Council of this association as the proper authority to interpret any doubtful points in ethics. Every applicant for membership in a county society shall fill out and sign in duplicate the application blanks provided by the society which prescribe the necessary qualifications for membership. One copy of each such application shall be promptly forwarded to the office of this association.

Section 14. Any county society may, in its discretion, elect active, associate, and affiliate members under and pursuant to the provisions of Article III of this Constitution. Any county society may also elect honorary members of its own society, but such honorary members shall not thereby be honorary members of this association.

Utah State Medical Association

T. C. GIBSON, M. D., Salt Lake City.....President
W. R. CALDERWOOD, M. D.....President-Elect
FRANK B. STEELE, M. D., Salt Lake.....Secretary

Editorials by J. U. GIESY, *Associate Editor for Utah*

CANCER OR CANNED—SIR?

Parallel investigations of the cause of cancer go forward more or less like Tennyson's brook (forever), yet one hopes that out of the ceaseless endeavor may come yet light on the rather appalling increase of cancer incidence. The English school with its ultra-microscope today seem the main supporters of the micro-organic, the germ, cause of the disease. Comes now a second line of investigation recently published of research along the line of a possible metabolic agency as the causative factor in the origin of this human curse.

For neither side do we hold any brief. Yet the thought that a disturbance of body metabolism may be either the actual cause or a predisposing cause holds a considerable interest. Certain it is that cancer, histologically speaking, gives every evidence of a perverted or disturbed cell metabolism. Years ago Mayo had some thoughts along this line, and now apparently the thing bobs up again, even if in a somewhat different form. Whatever else it is, cancer would seem to be a protoplasmic disease. By this we mean a disease depending upon a perverted or undefined cell development. What is it that actually dif-

ferentiates the definition of the embryonic cell into the typical cell of various tissue types? The answer to such a question lies back of a veil as yet. But it is known that cancer is practically a development of embryonic cells along certain lines without any normal regulation. It is a sort of cellular riot, a cell mob effect. And the basis of all cell development is the protoplasm in the light of modern day knowledge—protoplasm under the governing influence of some differentiating agency, unknown as yet.

Co-equally the source of protoplasm in the organism must be and is—food. Food elaborated in the body laboratory means growth and life. It is, therefore, interesting to note the lesser incidence of cancer among aboriginal races. And it does excite a consideration of the question of foods. The aborigine eats food in a more natural state than man of the civilized races. The question arises, does the uncivilized man, unaware of the modern theories of sterilization and food preservation, eat food in a condition more capable of furnishing to his body the necessary elements for normal nutrition, simply because he eats food containing a protoplasm in a more vitally active state?

And why not? Why should a foodstuff fresh, vital, not contain a protoplasm far more capable of supporting the body's processes, both of nutrition and defense, than a food which has been baked, boiled, steamed, pickled, preserved or pasteurized? If protoplasm is the basis of cell and, hence, bodily life, why should not a live protoplasm be more efficient than one which is half-dead? After all, life is life. And if we kill it out of our food, how can we get it into ourselves? And so we wonder if, after all, we may be largely eating a sort of foodless food today, when so much of our food is "canned" that a home-cooked dinner can hardly be prepared without a battery of can-openers with which to get it out of the little tin coffins in which it has been "scientifically" mummified? We don't really know, but we are tempted to ask the question, Is it possible that civilized man, in his modern efforts to support himself in sanitary safety, is overshooting the mark? Is it possible that, in the midst of plenty, he is actually, in a measure, starving his body cells? Is it possible that it is as much "canned-sir" as cancer in very truth? We don't know, but we think that it's a thing worth thinking about.

CHOP SUEY HEALTH

Chop-suey, literally or somewhat vulgarly translated, means "table-scraps." Actually, it is a conglomerate mass of food of various sorts. And the health of the modern world is a good deal like that. If we're well, we're well, and if we're not, we're not. Like the Irishman, we dwell under the roof of health during pleasant weather, and when it rains we get wet. But we wouldn't get wet if, once in a while, the roof were inspected and repaired—or at least we wouldn't get so dreadfully wet, perhaps. Entering a new year and in view of the Conference of the Examination of the Apparently Well, recently held in Chicago, one wonders why mankind of this western world doesn't tire of being satisfied with "chop-suey health." He insures and paints his house. He insures his life, and then neglects the very thing on which it depends—his body—until its roof, which is its health, begins to leak. This is poor conservatism beyond a doubt. He has his automobile inspected and overhauled about every so often. But he fails to have his own life engine given the same attention that he accords to the "old boat." There is a wonderful lot to be said in favor of the effort being put forth to change all this—to induce people to apply common-sense methods to themselves. As to whether the suggestion made at the conference that the average common, garden variety of doctor would be unable to functionate acceptably with his patients, may be justified or not, we don't want to debate. Personally we feel that the average doctor is a pretty good scout. We feel that he would catch a lot of knocks in the human engine submitted to his inspection, which would, if neglected, result in serious trouble unless checked. But the main thing is twofold, to try—each and every one of us in the coming year—to spread the propaganda for a physical examination of the apparently well about every so often, and to educate our patients at the same time in the fact that we are not advocating such a program for self-advantage, to make merely commercial dollars, to point out to them that "prevention" *is* better than cure, and that by following out such a program they will in the end be saving, not only dollars, but years of useful and reasonably enjoyable life. And so we want to suggest that, to do this very thing, shall be one of the *New Year resolutions* we shall make, and one which, unlike so many New Year resolutions, we shall not break. Chop-suey may be a very excellent food, but scrappy health is a—curse.

1824-1925

Born—December 2, 1824—to John and Alice Coe Hullinger, a son. Such might have been the heading in a paper of that date, to herald the advent into life, a hundred and one years ago, of the oldest practicing physician in the United States. They named the boy Harvey Coe Hullinger, and in 1852 he graduated in medicine from a school in Columbus, Ohio, capital of his native state.

In 1859 he and his young wife came to Utah as members of one of the bands of pioneers, crossing the plains and mountains in ox-team wagons to join the Mormons under Brigham Young in the days of the early settlement of this state. Dr. Hullinger has practiced his profession in Utah ever since. But he has done many other things as well, because in the early days the revenue from medical practice was not great. During his first ten years he tells that he received but $40 in cash, although he received other payments in wheat and other farm products. Similarly, he says that during two years in the southwestern part of the state he took in only 75 cents in cash, and that was from an Indian to whom he sold a pocket-knife. Wherefore, the doctor taught school, cut and sold firewood to help out, receiving a fee of a bushel and a half of wheat for every pupil in his school. Also he journeyed to the shores of the Great Salt Lake and gathered salt and sold it for 5 cents a pound to his neighbors. One had to live.

In 1862 he enlisted and was commissioned a lieutenant, Medical Corps, in the cavalry troop of Lot

Smith. He served until discharged; whereupon, he came back to Utah and his family and continued his practice, opening for a time a hotel in a mining camp.

In 1883 he removed to near Vernal, Utah. Shortly afterward he was officially made a medicine man of the Ute tribe of Indians as a tribute of "Wash," a Ute chief, for saving his life from pneumonia, with which the chieftain was lying at the point of death. Dr. Hullinger is well qualified for the post, as he speaks the Indian tongue as fluently as his own, and has frequently acted as peacemaker in the past, more particularly just after the Meeker massacre in 1879.

Dr. Hullinger is a patriarch indeed, and in view of the fact that he celebrated his hundred and first birthday December 2, 1925, and is still hale and hearty, and still practices his profession among his friends, we cannot resist this opportunity to extend our congratulations and good wishes at this time. The first hundred years are said to be the hardest. Dr. Hullinger should be an authority on this point.

Utah Notes—F. Steele, secretary of the Utah Association, has returned from Chicago, where he attended the meeting of the secretaries of the A. M. A., and also the conference for the examination of the apparently well. Dr. Steele had a very pleasant trip, and is quite enthusiastic over the purposes of the latter meeting, insofar as the intent of the movement and its possible influence for a wider scope of preventive rather than curative medicine is concerned.

Ground has been broken for the new Medical Arts building in Salt Lake, and the work of excavating is going on apace. This building, which will be of absolutely modern construction, designed to fill the needs of medical men and dentists in every particular, will fill a long-felt want among the professional men of Salt Lake, and perhaps change, in a measure, the point of view of the average office building management, which heretofore for some time has been that the professional man was a nuisance rather than a desirable tenant. After the building is up there will be about 120 such tenants who will occupy its space.

Utah First "Over Top" in Medical Reserve Quota—Utah is the first state in the Ninth Corps Area to "go over the top" in enrolling its quota of Medical Reserve officers, according to a report received Monday from the Ninth Corps Area headquarters at San Francisco by Major S. C. Gurney, chief medical officer of the 104th Division.

Not only has the medical profession contributed more than the number of medical officers called for, but the dental profession of the state has enrolled twice as many dental officers in the Reserve as would be a fair quota for the number of dentists licensed to practice in Utah.

There are four medical department units allocated to Utah, all of which are now in process of organization. One unit, general hospital, No. 61, Salt Lake City, has progressed to an extent warranting the preparation of its plans for mobilization in the early future, it is said.

The Holy Cross Clinical Association held its monthly meeting November 16. A very interesting case of esophageal obstruction was presented, with x-ray plates and the opportunity for fluoroscopic examination of the patient, by Helmina Jeidell. C. L. Shields reported a case of femoral thrombosis, and T. A. Flood exhibited a number of very interesting laboratory specimens.

Meetings of the Wasatch Academy, review group, are being held every Thursday evening as usual from October to April. Every meeting finds much of interest brought out. The presentation of papers and reviews and the exhibition of interesting cases make these weekly meetings a continual pleasure and source of mutual benefit. McHugh is in charge of the meetings and the program of the academy, as in the past.

The committee appointed to consider the program for "Military Night"—the night to be set aside for the purpose of furthering the interest in and recognition of the organized Medical Reserve, as suggested by the Surgeon-General's office through each Corp Area headquarters, met Sunday and arranged to recommend at the next meeting of the Salt Lake County Society that February 22, 1926, be designated as the night for this meeting. It was also decided to arrange a program along medico-military lines. Utah has furnished a large quota of the Medical Reserve in the Ninth Corp Area. Four medical units are allocated to Salt Lake. It is of interest to know also that the Dental Reserve for Utah is way over the top.

Salt Lake County Medical Society (reported by M. M. Critchlow, secretary)—A regular meeting of the Salt Lake County Medical Society was held at the Commercial Club November 23, 1925. Meeting called to order at 8 p. m. by President John Z. Brown. Forty-one members and nine visitors were present.

George W. Middleton presented a woman operated on in 1916 for acute suppurative cholecystitis. In 1917 a rubber tube was put in to replace part of the common duct. The tube still remains in place. A gastro-enterostomy was performed this month.

W. R. Tyndale presented a case of pituitary tumor with acromegaly.

Miss A. A. Buffington, secretary of the Family Service Society, Salt Lake City, talked on social service and health. She mentioned the fact that 50 per cent of her cases originated because of ill-health, and illustrated this fact with two case histories. She outlined the management of a case and told what the society does to help, and make her clients help themselves. She deplored the fact that our state has no tuberculosis hospital, no place for the feeble-minded or epileptics, and also the lack of social service facilities in the hospitals. Her talk was discussed by F. H. Raley, E. D. LeCompte, W. R. Tyndale, F. L. Stauffer, L. N. Ossman, S. C. Baldwin, John Z. Brown, and George F. Roberts.

Ray T. Woolsey read a paper on "Puerperal Infection." He cited the morality in various states and countries, and factors favoring infection were fully discussed. He outlined the management and especially the prophylactic treatment. His paper was discussed by S. H. Besley.

F. L. Stauffer reported for the building committee, and outlined the plan for financing.

President Brown announced that Dr. Bigelow of Panguitch desired someone to take his practice for several months. He also announced that the annual election of officers would be held at the next meeting.

W. R. Tyndale moved that the society grant Miss Charlotte Stewart and the physical directors of the city schools the privilege of using the Salt Lake County Medical Society Library. Seconded and carried.

Nevada State Medical Association

A. J. HOOD, M. D., Elko.....President
HORACE J. BROWN, M. D., Reno.....
.....Secretary and Associate Editor for Nevada

Washoe County Medical Society (reported by Henry Albert, secretary)—The society met December 8, 1925, in regular session in a room in the Y. M. C. A. building, President Vinton A. Muller presiding.

The treasurer presented the annual report, giving receipts and expenditures for the year. The balance on hand is $43.55. By vote, the report was approved and ordered placed on file.

The following officers were elected for the year 1926: President, Henry Albert; Vice-President, C. W. West; Secretary-Treasurer, J. A. Fuller. Censor for three years, R. H. Richardson. The other two censors are C. E. Piersall for one year, C. W. West for two years.

Program—L. A. Emge of San Francisco presented a paper on "Venous Disturbances of the Female Pelvis." It was illustrated with lantern slides. Dr. Emge called

attention to the frequency of this pathological condition; the possibility of mistaking it for chronic inflammation of the various organs of the pelvis, and the treatment of the condition by both non-operative and operative methods. The paper was discussed by Dr. Brown.

Attendance—Members: Albert, Blake, Brown, DaCosta, Fuller, A. J. Hood, W. H. Hood, Huffaker, Morrison, Muller, Piersall, Richardson, Riley, Robinson, Robison, Servoss, Tees, Lehners, Walker, and West. Dr. L. A. Emge of San Francisco and Dr. Bolt of Berkeley were guests.

Adjournment—There being no further business, the meeting adjourned.

After the meeting, retiring President Muller and his charming wife acted as host and hostess to the members of the society at their home. Refreshments were served and a very delightful social hour was enjoyed.

M. O. R. C.

Ninth Corps Area—California, Nevada, Utah, Wyoming, Montana, Idaho, Washington, Oregon, and the territory of Alaska.

The first unit of the Medical Reserve Corps in the Ninth Corps Area to complete its plan for mobilization is Evacuation Hospital No. 90, San Diego. The Commanding Officer of this unit is Colonel Alfred E. Banks, Medical Reserve, San Diego, who has just been ordered to active duty in San Diego for fifteen days to fill the last few vacancies in his unit and to perfect its organization. With these final steps, Evacuation Hospital No. 90 will be in a position to take the field immediately in an emergency, with a full administrative and professional personnel, each man of which is assigned to an appropriate duty in a well-rounded and co-ordinated service. An outline of the special duties of each position has been prepared, and these are discussed by the incumbents at the monthly dinner conferences held by the personnel of Evacuation Hospital No. 90.

Recruiting for the necessary members of the Reserve Nurse Corps for the unit is now going on. A chief nurse has been appointed, and junior nurses are now being selected.

Much credit is due to the excellent work of Colonel Banks in completing the organization of Evacuation Hospital No. 90. He is now giving valuable aid in the organization of Station Hospital No. 146, which is also allocated to San Diego. The County Medical Society, San Diego, has assumed a sponsorship for both these organizations, and is supporting them in every possible way.

In a recent issue of an attractive eight-page bulletin, issued by the Unit—in itself no small undertaking—we read:

"Evacuation Hospital No. 90 is no longer an ephemeral and purely paper organization. We now have, in addition to allocation orders, and instructions for organizations, an almost complete commissioned personnel according to tables of organization, and it is safe to say that within the next few weeks there will be no remaining vacancies for commissioned officers, medical or otherwise.

"The San Diego County Medical Society, which has fostered this institution, and has provided the medical talent, should, and no doubt does feel something of pride in contemplating the growth and progress of its progeny.

"It is well to remember in this connection that no INDIVIDUAL alone can insure a successful career for our hospital. From the chiefs of the Medical and Surgical services down to the enlisted ranks each individual should perform to the fullest extent those peace-time duties which are indicated. It is through concerted effort only that real preparedness will be accomplished.

"Steps have been taken to provide an easy and reasonable method for peace-time training. Co-operation is evident on every hand. Former medical officers of the regular establishment, former emergency officers, and others are volunteering their services in order that instruction may be available on subjects not easily mastered without help on an inactive status.

"One matter which is of importance to the Medical Reserve generally, and which deserves the consideration of the local profession, is relative to adequate publicity in connection with Medical Reserve affairs, not only local, but throughout the United States. In this connection it has been suggested that the Journal of the American Medical Association and such publications as CALIFORNIA AND WESTERN MEDICINE devote an adequate amount of space to matters pertaining to the Medical Reserve in each issue.

"The American Medical Association Journal gives a sporadic and abbreviated notation under the caption, 'Government Services.' The Reserve is seldom mentioned in this column. It is believed that a healthy amount of publicity carried in the professional journals will do much to promote interest in this very necessary part of our national preparedness program. Remember all communities and sections are not as enlightened as is the case in San Diego County. The medical requirements in case of national emergency demand that this matter receive immediate and sympathetic attention on the part of the editorial staffs of the medical press.

"The Sacramento County Medical Society is sponsoring two hospital trains and two medical laboratory units. Information is not available as to the completeness of the personnel volunteering for these units, but it is encouraging to learn that other cities on this coast are taking the matter of medico-military preparedness seriously. Since, in the event of emergency one of the units above mentioned might easily be responsible for service connected with vacuating patients from this hospital, we are naturally interested in their welfare, and Sacramento has our best wishes.

The first state in the Ninth Corps Area to go "over the top" in enrolling its proportionate quota of Medical Reserve Corps officers is Utah. Not only has its medical profession contributed more than the number of medical officers called for, but its dental profession has enrolled twice as many dental officers as would be a fair quota from the number of dentists licensed to practice in Utah. This more than generous response from the patriotic medical and dental professions of Utah sets a high standard in Medical Reserve Corps matters for the other seven states in the Ninth Corps Area.

There are four medical department units allocated to Utah, all of which are now in process of organization. One unit—General Hospital No. 61, Salt Lake City—has progressed to an extent warranting the preparation of its plans for mobilization in the early future.

The success of Medical Reserve affairs in Utah is largely due to the patriotic energy of Colonel S. C. Baldwin, Medical Reserve, Salt Lake City. The Salt Lake County Medical Society has also formally assumed responsibility for the promotion and support of the four Medical Department Reserve units allocated within that county.

Lieutenant-Colonel Daniel L. High, Medical Reserve, Los Angeles General Hospital, Los Angeles, California, has been appointed Liaison Officer in Medical Reserve Corps affairs for the district of Southern California. Colonel High succeeds Colonel Charles W. Decker, Medical Reserve, Marsh-Strong building, Los Angeles, California, on application of the latter to be relieved by reason of the pressure of other matters.

Some hospital units of the Medical Reserve Corps which are well advanced in their organization and development are holding dinner-conferences monthly, not only for get-together purposes, but for professional information. General conditions in the unit and the Medical Reserve Corps generally are discussed, and this is followed by an address by some member of the unit or some outside speaker on hospital administration, peace-time training, or other appropriate subject. The transactions of one hospital unit are deemed of such importance by the local County Medical Society that they are abstracted and published in its monthly bulletin. On Defense Day the more advanced medical units appeared in parades, and made a very creditable showing. In the recent earthquake at Santa Barbara various Reserve Medical Officers donned their uniforms, reported for duty, were given important duties, and did much to handle the

situation. Besides the national emergency, to provide for which the Medical Reserve Corps was organized, it is very obvious that to have its personnel and units immediately available to meet local emergencies is a great asset to any community. Flood, fire, cyclone, earthquake, and other agencies may at any time exact an unexpected toll. The medical profession should have its organizations of the Medical Reserve Corps ready to give prompt relief in time of such catastrophe.

Captain Edgar P. Murdock, Medical Reserve, Winthrop, Washington, and First Lieutenant Mazel Skolfield, Medical Reserve, Salt Lake City, Utah, have been ordered to active duty, with their consent, for the period December 31, 1925 to April 10, 1926, for a course of instruction as flight surgeons at the School for Aviation Medicine, Mitchell Field, Long Island, New York.

The physical examination of fliers is obviously a most important matter, and its requirements and technique cover many points not included in an ordinary physical examination for the military service. The three months' course in the School for Aviation Medicine is planned to give the necessary special training for this and other matters professionally connected with the flying service.

There is also a short course of six weeks at the School for Aviation Medicine from May 1 to June 15, but this qualifies medical officers merely as physical examiners for the aviation service, and not as flight surgeons. Officers are preferably selected for either course from among Medical Reserve Officers who have taken the preliminary correspondence course, and thereby prepared themselves to some extent for the course in aviation medicine. The present plan is to send three Reserve Medical Officers from each Corps Area to qualify in one or the other of these courses annually.

Prospective flight surgeons are taught aviation physiology, ophthalmology and otology, psychiatry, psychology and cardiology. The instruction received in these branches is of great practical value to any physician, and is equivalent to that obtained at our best post-graduate schools. A wealth of clinical material is available at Bellevue Hospital, the New York Eye and Ear Infirmary, and the Brooklyn State Hospital.

Medical Reserve Officers ordered for this instruction receive the pay and allowances of their grade and transportation to and from the School of Aviation Medicine. An officer's mess of moderate cost is operated at Mitchell Field, and quarters may be had there.

In view of the small number of regular army medical officers available as flight surgeons, and the growing needs of the aviation service, it is the policy of the War Department to train a sufficient number of Medical Reserve Officers to perform aviation medical duties. After qualification, they will represent the War Department in the examination of Regular Army, National Guard and Reserve Corps fliers, and the aviation cadets at educational institutions which are members of the Reserve Officers Training Corps. These Reserve flight surgeons will also form the basis of the medical service in the Reserve aviation service.

General Hospital No. 139, Zone of Interior:
Major Henry S. Kiersted, Med. Res., 840 Powell Street, San Francisco, Calif., as Assistant to Chief of Medical Service.
Major Archibald A. Atkinson, Med. Res., 1823½ Del Paso Boulevard, North Sacramento, Calif., as Assistant to Chief of Surgical Service.
First Lieutenant Allan R. Watson, Med. Res., Box 214, Eureka, Calif., as Medical Ward Officer.
First Lieutenant Dean M. Walker, Med. Res., Box 440, Sherman, Calif., as Medical Ward Officer.

La Garde General Hospital No. 142, Zone of Interior:
Major Chester L. Magee, Med. Res., 402 East Broadway, San Gabriel, Calif., as Assistant to Chief of Surgical Service.

General Hospital No.-144, Zone of Interior:
Second Lieutenant Jesse H. Allard, Qm. Res., 805 East Chestnut Street, Glendale, Calif., as Quartermaster.
Captain Herbert A. Repp, Mar. Res., 5408 California Street, San Francisco, Calif., as Adjutant.

Eighty-ninth Evacuation Hospital, Sixth Army:
Lieutenant-Colonel Philip S. Doane, Med. Res., 555 Herkimer Street, Pasadena, Calif., as Chief of Surgical Service.
Major John W. Shuman, Med. Res., 820 Westlake Professional Bldg., Los Angeles, Calif., as Assistant to Chief of Medical Service.
Captain Harry C. Smith, Med. Res., 201A West Broadway, Glendale, Calif., as Roentgenologist.

Station Hospital No. 136, Communications Zone:
Major Robert W. Fisher, Med. Res., 511 East Third Street, Salt Lake City, Utah, as Chief of Medical Service.
First Lieutenant Ezra E. Duntz, Dent. Res., 611 Templeton Bldg., Salt Lake City, Utah, as Dental Surgeon.

Station Hospital No. 142, Communications Zone:
Major Emil O. Jellinek, Med. Res., 2226 Washington Street, San Francisco, Calif., as Chief of Medical Service.
Major William P. Milliken, Med. Res., 3858 Howe Street, Oakland, Calif., as Chief of Surgical Service.

Station Hospital No. 146, Communications Zone:
Major William Ruoff, Med. Res., 3204 Dale Street, San Diego, Calif., as Chief of Medical Service.
Captain William A. MacPherson, Med. Res., 3629 Granada Street, San Diego, Calif., as Laboratory Officer.

Station Hospital No. 149, Communications Zone:
Major Philip K. Brown, Med. Res., 909 Hyde Street, San Francisco, Calif., as Chief of Medical Service.
Major Gustav J. Bergener, Med. Res., Medical Building, 909 Hyde Street, San Francisco, Calif., as Chief of Surgical Service.

Station Hospital No. 150, Communications Zone:
Major William J. Chambers, Med. Res., Palms, Calif., as Chief of Medical Service.
Captain Burdett S. Frary, Med. Res., 5311 Monte Vista Street, Los Angeles, Calif., as Medical Ward Officer.
First Lieutenant William R. McDannell, Med. Res., 1777 West Jefferson Street, Los Angeles, Calif., as Medical Ward Officer.
Captain Louis N. Anderson, Med. Res., 323 East Notwood Street, Inglewood, Calif., as Surgical Ward Officer.

Sixty-fifth Surgical Hospital, Third Army:
First Lieutenant George J. Wood, Med. Res., c/o Frank Wood, St. Helena, Calif., as Assistant Operating Surgeon.

Sixty-seventh Surgical Hospital, Third Army:
Major William H. Leake, Med. Res., 1143 Poinsettia Drive, Los Angeles, Calif., as Chief of Medical Service.

Sixty-eighth Surgical Hospital, Third Army:
Major Robert M. Jones, Med. Res., Silvagni Building, Price, Utah, as Chief of Surgical Service.

Seventy-second Surgical Hospital, Sixth Army:
Major George C. H. McPheeters, Med. Res., 1021 Mattei Building, Fresno, Calif., having been assigned to the unit, is assigned as Operating Surgeon.

Hospital Center No. 22, Communications Zone:

Headquarters

Lieutenant-Colonel Aaron J. Rosanoff, Med. Res., 2007 Wilshire Boulevard, Los Angeles, Calif., as Neuro-psychiatrist.
Lieutenant-Colonel Walter H. Winterberg, Med. Res., 516 Sutter Street, San Francisco, Calif., as Surgical Consultant.
Captain Vincent V. Hardeman, Med. Res., 291 Geary Street, San Francisco, Calif., as Evacuation Officer.
Major John N. Force, Med. Res., University of California, Berkeley, Calif., as Assistant Medical Inspector.

Convalescent Camp:
Major Audley O. Sanders, Med. Res., 445 Homer Avenue, Palo Alto, Calif., as Chief of Medical Service.
Captain Robert J. Evans Jr., Med. Res., Bank of Concord Building, Concord, Calif., as Medical Ward Officer.
Captain Edward J. Ghidella, Med. Res., 408 Columbus Avenue, San Francisco, California, as Medical Ward Officer.

Hospital Center No. 24, Zone of Interior:

Headquarters

Lieutenant-Colonel William H. Roberts, Med. Res., 505 Professional Building, Pasadena, Calif., as Ophthalmologist.
Major Harry N. Krohn, Med. Res., 1104 Edwards & Willey Building, Los Angeles, Calif., as Evacuation Officer.

Convalescent Camp

Major George T. Boyd, Med. Res., 1420 Vista Street, Los Angeles, Calif., as Chief of Surgical Service.
Captain Ralph W. Buckman, Med. Res., 7424½ Sunset Boulevard, Los Angeles, Calif., as Medical Ward Officer.

Hospital Train No. 55, Zone of Interior:
Captain Michael A. Desmond, Med. Res., P. O. Box 1094, Santa Monica, Calif., as Surgical Service.

Hospital Train No. 71, Zone of Interior:
First Lieutenant Amasa M. Bowles, Med. Res., 365 Euclid Avenue, Oakland, Calif., as Medical Service.
First Lieutenant Robert Salinger, Med. Res., 1504 Oakland Avenue, Piedmont, Calif., as Orthopedic Service.

Medical Laboratory No. 1 (Aviation), Communications Zone:
Captain Francis J. Delaney, Med. Res., Port Townsend, Wash., as Physiologist.

The following-named Reserve Officers, having been assigned to organizations, are assigned within the unit, as indicated:

General Hospital No. 47, Communications Zone:
Major Dale L. Martin, Med. Res., 239 Fourth Street, Orland, Calif., as Executive Officer.
Major Fletcher G. Sanborn, Med. Res., 100 North First Avenue, Arcadia, California, as Assistant to Chief of Medical Service.

General Hospital No. 144, Zone of Interior:
Lieutenant-Colonel Joseph D. Condit, Med. Res., 284 Palmetto Drive, Pasadena, Calif., as Chief of Medical Service.

Eighty-ninth Evacuation Hospital, Sixth Army:
Major Oscar O. Young, Med. Res., 117 South Newlin Street, Whittier, Calif., as Chief of Medical Service.

Major Jackson C. Robertson, Med. Res., 1003 Twelfth Street, Modesto, Calif., as Executive Officer and Fire Marshal.

Major Clarence W. Kellogg, Med. Res., Box 118, East Bakersfield, Calif., as Assistant to Chief of Medical Service.

Major Joseph T. Axline, Med. Res., Box 758, Lankershim, Calif., as Assistant to Chief of Surgical Service.

Major William G. Parker, Med. Res., 5017 Livingston Drive, Long Beach, Calif., as Assistant to Chief of Surgical Service.

Major David A. Baker, Med. Res., 1360 Justin Avenue, Glendale, Calif., as Assistant to Chief of Surgical Service.

Major John Wehrly, Med. Res., 819 Spurgeon Street, Santa Ana, Calif., as Assistant to Chief of Surgical Service.

Station Hospital No. 146, Communications Zone:

Major Leighton R. Cornman, Med. Res., 4112 Adams Avenue, San Diego, Calif., as Chief of Surgical Service.

Sixty-fifth Surgical Hospital, Third Army:

First Lieutenant Walter O. Trobee, Mar. Res., 601 Castro Street, Hayward, Calif., as Adjutant, Detachment Commander, and Evacuation Officer.

Second Lieutenant George E. Chase, Mar. Res., 142 Sansome Street, San Francisco, Calif., as Registrar and C. O. Detachment of Patients.

Sixty-seventh Surgical Hospital, Third Army:

First Lieutenant Frank W. Otto Jr., Med. Res., 853 Lucerne Boulevard, Los Angeles, Calif., as Assistant Operating Surgeon.

The following-named Reserve Officers are relieved from their present assignment, and are assigned as indicated:

First Lieutenant Wilford M. Briggs, Med. Res., 109 North May Avenue, Monrovia, Calif., is relieved from Barnes General Hospital No. 141, Zone of Interior, and assigned to La Garde General Hospital No. 142, Zone of Interior, as Medical Ward Officer.

First Lieutenant Solomon N. Weil, Med. Res., Selby, Calif., is relieved from Barnes General Hospital No. 141, Zone of Interior, and assigned to Hospital Train No. 71, Zone of Interior, as Surgical Service.

First Lieutenant Laurence E. Wright, Med. Res., Parnassus and Third Avenue, San Francisco, Calif., is relieved from Army Medical Laboratory No. 4, Sixth Army, and assigned to Medical Laboratory No. 1 (Aviation), Communications Zone.

The following-named Reserve Officers are relieved from assignment to Sixth Army Medical Laboratory, Sixth Army:

Major Alfred R. Rogers, Med. Res., 966 South Wilton Place, Los Angeles, California.

Major Karl T. Waugh, Sn. Res., University of Southern California, Los Angeles, California.

Captain Romeo T. Cook, Sn. Res., 605-606 Detwiler building, Los Angeles, California.

Nineteenth Corps Medical Headquarters, Corps Troops:

Lieutenant-Colonel George K. Herzog, Med. Res., 1050 Flood building, San Francisco, California, as Principal Assistant Hospitalization and Inspection.

Eighty-eighth Evacuation Hospital, Sixth Army:

First Lieutenant Albert E. Larsen, Med. Res., University Hospital, San Francisco, California, as Evacuation Officer.

First Lieutenant Robertson Ward, Med. Res., 1553 Eighth Avenue, San Francisco, California, as Surgical Ward Officer.

The following-named Medical Corps Reserve Officer is relieved from his present assignment and assigned as indicated:

Major Chauncy M. Benedict, 126 First Avenue, Salt Lake City, Utah, from assignment to Sutherland General Hospital No. 61, Zone of Interior, and is assigned to Station Hospital No. 136, Communications Zone, as Commanding Officer.

The following-named Medical Reserve Officers, having been assigned to the organization indicated, are assigned within the unit as Commanding Officer:

Hospital Train No. 22, Communications Zone:

Major Leon G. Seidenfeld, 240 Stockton Street, San Francisco, California.

Hospital Train No. 44, Communications Zone:

Major Herbert A. Abbott, 585 Turk Street, San Francisco, California.

People have not yet grown away from the old-time medical mythology, nor are they likely to forego the pleasures and thrills of superstition, or neglect an opportunity to declare their faith in some hocus pocus, especially if its pretentions include the healing of disease, until fairy tales are banished from the nursery.—Editorial, Journal Kansas Medical Society.

If you cannot look evil in the face without illusion, you will never know what it really is, or combat it effectually. The few persons who are able (relatively) to do this are ignorantly called cynics.—Bernard Shaw.

When the wild geese fly they have the sense to follow their leader.—Japanese Proverb.

NEWS ITEMS FROM THE CALIFORNIA BOARD OF MEDICAL EXAMINERS

C. B. PINKHAM, M. D., *Secretary*

Newspaper reports from St. Louis relate that Robert Adcox, principal in the Diploma Mill, recently confessed, acknowledging his guilt in issuing thousands of fraudulent credentials, and a serial story of his confession is now running in daily issues of the St. Louis Star. Dr. Adcox testified in "Quo Warranto" proceedings brought by the authorities of Missouri to revoke the charter of the St. Louis College of Physicians and Surgeons. In Dr. Adcox's confession he relates his business association with Dr. Frank P. Young of Los Angeles in obtaining Pacific Medical College credentials. Dr. Young's license was revoked by the Board of Medical Examiners October 22, 1924, since which time he has been endeavoring, through court action, to set aside the revocation on technical grounds.

T. Wah Hing, Chinese herbalist of Sacramento, prominently mentioned in connection with the Chinese Herbalist bill which created considerable newspaper discussion during the last session of the Legislature, was recently convicted after a jury trial in Sacramento and was sentenced by Superior Judge Charles O. Busick to three months in the county jail and to pay a fine of $600. Hing was permitted his liberty under bonds of $500 pending his appeal. The records show that Hing has been in trouble several times with the federal authorities and Pharmacy Board, as well as having been charged with violation of the Medical Practice Act, his previous conviction having been obtained in 1920.

Court records show that in 1911 T. Wah Hing was convicted of a criminal operation in Sacramento County, the conviction having been set aside on a technicality based on error (on the part of the prosecuting attorney) committed during process of trial.

Newspaper reports relate that the Board of Osteopathic Examiners recently revoked the license of E. A. Leatherwood, based upon a charge of aiding and abetting an unlicensed practitioner, the records showing that Leatherwood was working with Bishop Cosper, who, after rather salacious testimony had been introduced in evidence, was recently convicted in Martinez of violation of the Medical Practice Act and sentenced to pay a fine of $500 and to serve three months in the county jail, from which sentence he appealed.

"Dr." John Scott Barker, Oakland "Sanitarium Pro-prietor," convicted in the U. S. District Court March 20, 1924, of selling narcotic drugs, according to Associated Press dispatches from Washington, has been refused a review by the U. S. Supreme Court. He was sentenced to serve five years in Leavenworth Penitentiary.

A complaint was recently filed in Los Angeles, charging A. L. Oxford with violation of the Medical Practice Act, our Investigator Carter relating that Oxford had been accused of negotiating with the widow of Fletcher A. Butler, M. D., who died in San Diego May 31, 1924, for the purchase of Dr. Butler's diploma and prescription blanks, it later being reported that Oxford had obtained possession of the California State certificate issued in the name of Fletcher A. Butler (deceased), and is now a fugitive. State boards have been warned against recognizing the California certificate of Fletcher A. Butler (deceased).

According to reports, an order was recently placed with a firm of photographers in Mexico City through a letter written by an individual in Los Angeles, for an exact reproduction of a diploma of either the National University or the University of Guadalajara, it being specified that the diploma was to be an exact reproduction, including signatures of faculty, but that the name of the individual to whom said diploma was issued should be a blank, in order that the purchaser might enter the name he chose.

An individual named Paul Sandfort has been reported arrested in the City of Berkeley and released on cash bail

in the sum of $1000. Our special agent reports that at the time of Sandfort's arrest a quantity of surgical instruments, medicines, gold and platinum wire, stationery and cards bearing the letters "M. D.," a folding operating-table, a metal die reading "Paul S. Sandfort, M. D., Ph. D.," etc., were taken on a search warrant.

On occasions during the past several years complaints have come to us that Paul Sandfort, posing as a physician and surgeon, has been violating the Medical Practice Act, both in San Francisco and the southern part of the state.

During our investigation in 1919 the New York Board of Medical Examiners related that an individual named Paul Sandfort, claiming to be a graduate physician from the University of Berlin, had been involved in difficulties in that state.

Under date of Berlin, November 15, 1920, in answer to our letter of inquiry addressed to the University of Berlin, we received the following reply: "I take the liberty to answer that Paul Sandfort did not receive the certificate as a Doctor of Medicine in our university. Yours truly, (Signed) Secretary of the University, Weszel."

In 1920 Paul Sandfort was charged with violation of the Medical Practice Act, it being related that the testimony of witnesses, a large number of surgical instruments, various bottles of medicines, drugs, etc., were introduced; that following a series of continuances asked by counsel for the defendant, the charge was finally dismissed.

According to Associated Press dispatches, John Turner Rose, M. D., was recently apprehended by the federal authorities in Oklahoma and returned to Los Angeles on a charge of violation of the Mann Act. Dr. Rose is not licensed in the State of California, it being reported that he is licensed in the State of New Jersey.

Special Agent Henderson recently reported that Y. Wong and Chew Hing, herbalists, were recently held for trial in the Superior Court of Stockton on a charge of violation of the Medical Practice Act.

Christina S. Loose was reported recently released on $20,000 bail by the Oakland police, she having been held over to the Alameda County Superior Court for trial on a murder charge in connection with the death of Mrs. W. L. Sweet, wife of an Oakland ballroom owner. Newspaper reports relate that Christina S. Loose claims to be a graduate of a medical college, but thorough investigation fails to substantiate such a claim.

Newspaper reports relate Percy Purviance, Berkeley chiropractor, head of the Berkeley Chiropractic High School and Berkeley College of Chiropractic, is under investigation by the State Board of Chiropractic Examiners, "aimed at revocation of Purviance's California license as a chiropractor on the allegation that he employed fraud and deception in obtaining the license." It is reported Purviance has retaliated by instituting court action attacking the legality of the Chiropractic Board.

James A. McLean, mentioned in the last issue as having been charged with violation of the Medical Practice Act in San Francisco, recently plead guilty and was placed on probation for one year by Superior Judge Pat Parker, sitting for Judge Louis Ward.

Beware of an alleged impostor who is reported to be presenting a letter bearing the signature of a mythical doctor, who relates the bearer is suffering from incipient tuberculosis, and soliciting funds to carry him to Arizona.

Walter N. Thompson, whose sign recently adorned the window of Hotel Rand, 364 Eddy street, San Francisco, was recently charged with violation of the Medical Practice Act. Special Agent Henderson reported numerous surgical instruments and a quantity of medicine in the possession of Thompson, whom Henderson recognized as the same individual who, some few years ago, attempted to open an office on Kearny street, San Francisco, being then in possession of a Harrison Narcotic Registration "Stamp," although he could show no credentials, nor did the records of the board show such an individual licensed to practice in this state. Query: *How did Thompson secure a 1915 permit to purchase and dispense narcotics?*

Special Agent Carter reports a recent charge of violation of the Medical Practice Act filed against midwife Anna Terrillo, Los Angeles, who is accused of giving pills and capsules for the asserted purpose of relieving pregnancy.

E. B. Martin, self-styled "Cancer specialist," was recently fined $360, with an alternative of 180 days in the county jail, in the Superior Court of Sacramento, following his conviction of violation of the Medical Practice Act. An interesting statement in evidence related that Martin made his discovery of the so-called "cancer cure" through a mistake of a druggist, who, after compounding two prescriptions, one for external and the other for internal use, had given the external medicine for a cancer patient, who used it internally, and as a result was alleged to have been cured of cancer.

Rose Fritz, an old offender in violating the Medical Practice Act, was recently convicted in the Superior Court of San Francisco and sentenced to pay a fine of $600, or serve six months in the county jail.

Press dispatches from Los Angeles relate that on November 25, 1925, Harry James Powers, M. D., was arrested by the Los Angeles Police Department on a charge of alleged sale of morphine to dope addicts, dispensing the drug himself instead of giving prescriptions.

Recent press dispatches from Reno, Nevada, relate that "William Kramolin, Southern California physician, plead guilty to charges of embezzlement and theft of a platinum dish from the laboratory of the University of Nevada," and is reported to have been sentenced on October 15, 1925, to serve "not less than two or more than fourteen years in the Nevada State Penitentiary."

William V. Kramolin appears on the records of the Board of Medical Examiners as having been arrested in San Francisco in 1921 on a charge of violation of the Medical Practice Act, the case being dismissed February 24, 1922, on account of refusal of witnesses to testify. Report from the American Medical Association relates that they have no information in regard to "Dr. E. V. or William V. Kramolin."

The District Court of Appeals, San Francisco, on December 1, 1925, in the case of Davis Grisso, M. D., vs. Board, affirmed the judgment which revoked the license of Davis Grisso, October 18, 1923. Grisso's license was revoked in Sacramento County following a hearing based upon Grisso's connection with the Bohannon Cancer Institute, Oakland. Following the revocation, Grisso's attorneys brought action to set aside the findings of the Board of Medical Examiners.

THE DALLAS SESSION, A. M. A.

Local Committee of Arrangements

Dr. E. H. Cary, Medical Arts Building, Dallas, Texas, on nomination of the Dallas County Medical Society, has been chosen chairman of the Local Committee of Arrangements. The names of other members of this committee and of its subcommittees will be published later.

Plans for the Scientific Exhibit

The Committee on Scientific Exhibit calls attention to the fact that those who expect to exhibit at the Dallas session should begin making arrangements sooner than usual, as it will occur the middle of April. Plans for the Scientific Exhibit and Motion Picture Theater Program are under way; as soon as the details have been formulated, further announcement will be made in The Journal. The Circular letter and application blank for the Scientific Exhibit, 1926, will be sent out in about six weeks. Any who desire to receive these should send their names and addresses to Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

CORRESPONDENCE

November 25, 1925.

To the Editor—I have read with intense interest your article in the last issue J. A. M. A., and you will know how much it stirred up my thoughts when you read the enclosed letter sent today to the editor of that journal.

With your permission, I think it may be advisable to use part or all of the information contained in your article in a local publicity campaign here in Los Angeles.

With this idea in view, I will take it up with our Publicity Committee in the Los Angeles County Medical Association. We surely do have enough quack advertising by our local newspapers. Why not some that will do the public some real good?

As a member of our local Association of Commerce, I will also take this up with the Medical Committee of that body and secure, if possible, their active co-operation.

FRANK M. WOOD, M. D., *Los Angeles.*

In his letter to the Editor Journal A. M. A., Doctor Wood says:

November 25, 1925.

"I have read your editorial and the article of Dr. Musgrave of CALIFORNIA AND WESTERN MEDICINE with keen interest, because of its very evident bearing on the future success of our profession.

May I suggest that the success of the campaign now inaugurated by the County Medical Societies, as indicated by your editorial, will depend on the right kind of publicity through effective advertising; to meet that of the numerous commercial public health agencies.

Would this not be most effectively secured by reprinting the article of Dr. Musgrave and distributing it to the general public? Could this not be done at the expense of the County Societies? It seems certain that every member of the A. M. A. would co-operate in this, if such a ready means were at hand to do it in an ethical way.

The main facts disclosed in this article might also be published in health magazines and sponsored by the County Societies in local newspapers, in which the display of commercial health agencies meets the public eye daily.

As a member of our association I am glad to hail this long-delayed movement to restore the regular physician to his rightful place with the public, as the conservator of the public health. I trust it will bear fruit in a wise and legitimate publicity for periodic health examinations by the regular physician. I am convinced that it will succeed only if the advertising shall secure an equal or greater public attention than that of the commercial advertisers. For this reason the within suggestion is offered for what it is worth."

Dear Editor—The M. D. who does as you wish regarding indigents will soon be a damn-sight poorer than 90 per cent of the patients he treats for nothing. It is the county who should care for them, not the poor fish of an M. D.

Note—This letter refers to the editorial "Back to Your Personal Doctor," in the December issue of CALIFORNIA AND WESTERN MEDICINE, particularly to the part which reads:

Since CALIFORNIA AND WESTERN MEDICINE has been agitating similar methods (co-operative plan of the Federated Women's Clubs of Illinois with the Illinois Medical Association and Illinois Dental Society by which the Women's Clubs exert themselves to have all "pre-school" children examined *by their own family doctors and dentists in their own offices,* instead of attempting to operate health centers, clinics, and generally practice medicine themselves), we have been told that some doctors would not do the work. We don't believe it, but let us find out who they are, if any. There are plenty who will. Again we have been told that some doctors would neither examine nor treat the poor without pay. Again, we don't believe it. But again let's find out who they are, if any. And again, there are plenty who will assume the privilege.

December 7, 1925.

To the Editor—On November 23, there was stolen from my car, parked on Market street, in the nine hundred block, one of the new physicians auto emblem No. 6592. I wrote to the A. M. A. for the number, and they advised that we give you the details that it might be "mentioned in the Journal of the California State Medical Society."

I believe it is the policy to endeavor to keep these emblems out of the hands of non-members. Thank you.

D. BRANDLEY PLYMIRE.

Note—Medical parasites are getting pretty bold when they become so anxious to pass themselves off as members of the C. M. A. and the A. M. A. that they will steal a copyrighted, specially marked, registered automobile plate.

If the thief who uses it ever has an accident or gets caught he is in for more trouble than he knows of.

To the Editor—To an ex-service man of the late war, the article and editorial in the recent number of the CALIFORNIA AND WESTERN MEDICINE, is of exceptional interest. It urges all of us, especially those of previous experience, to enroll in the M. O. R. C, of the U. S. Army, and laments the lack of interest and tardiness in our not flocking to the colors in a patriotic way.

There are a number of exceptions and criticisms that might be made, in the light of previous experience, by a number of experienced men. It is stated in this article that it is of advantage to get in early in order that one may outrank those who join later. This matter of rank is one that has rankled in a number of breasts since the late war. There were those who, by joining early because of patriotism, sense of duty, or what not, got sent overseas and there lingered as First Lieutenants or Captains until sent home long after the armistice, but had the pleasure, after the war was really over, of welcoming a lot of Majors and Lieutenant-Colonels who no doubt served their country just as well on the American side. Promotions seemed to have been easier and faster in the U. S. A. than in France, and being outranked by men who never heard a shell or saw a wounded man did not sit well. This did not apply alone to the Medical Service, but to other branches as well.

There were some of our professions who had more sagacity than some of us who stampeded early into the service. They stayed out until the need seemed greater, but began their service as Captains, Majors, or higher rank.

It would not be fair to say that the next war may not be different or that the National Defense system, as now planned, may not obviate all such discrepancies. Who knows? It may have been comical to see an eminent surgeon who had been a terror to his interns and nurses wearing a Lieutenant's bar and trying to learn to ride a horse in training camp, while a small-time general practitioner from a small town but with a large pull sported silver leaves, but it makes one think.

Of what particular advantage to the ordinary physician is rank anyhow? In very few instances does the pay remunerate him for the practice he gives up. How many are there who really feel the superiority complex which comes from rank? To all but the few to whom the pomp and glory of a uniform appeals, they simply remain physicians practicing their profession under difficulties. Most of them hated the necessary complicated never-ending rules, orders, regulations, and paper work upon which so many spent the major part of their time. To the other branches of the service, what difference did it make whether the physician who was responsible for the evacuation and treatment of their wounded happened to be a Lieutenant or a Colonel? After all he was simply the doctor, very important when there was fighting and treated with deference during the emergency, but after all a necessary evil and sometimes a nuisance, but never really a soldier.

Why, then, should there be any stress upon rank among medical officers. Suffice to make them all Majors, Lieutenant-Colonels, or simply le Medicin, that they may have some remuneration commensurate to their profession and perhaps expedite such dealings as they have with the other branches of the service.

There can be no question of patriotism in regard to the

medical profession, and those who might knock the service the hardest would probably be among the first to enlist, should there be the emergency. War experience is certainly conducive to hatred of war with its useless slaughter, pain, misery, and sordidness, and maybe has produced a lack of enthusiasm among some of those who saw what war is. We may say with great fervor, "Never again," although we know deep in our hearts that except for such disabilities as might disqualify us that we could not be kept out of any war in which our country might engage.

WALTER PARRY GUY, M. D.
4362 Melrose Avenue, Los Angeles.

Note—In submitting the above, Doctor Guy writes:

In sending you the enclosed copy, which you may use or not as you see fit in the circumstance, I trust you will not see anything but the kindliest comment upon your article and editorial. My own experience in the late war was one which leaves me no regret. The remembrances in connection with it are priceless. It is one of the outstanding features in my life. Still, I am candid to state, I should hate to do it again.

To the Editor—I wish to add a few words of praise for your department of medical discussions or, as you call them, "Conversaziones." Although I am in a specialty (urology), I shall read them with interest, because it will be a means of keeping in touch with the active questions in medicine. Don't you think the title "Bedside Medicine for Bedside Doctors" is a bit large and unwieldy? What would you think of the suggestion, "The Bedside Forum."—A. A. K., Los Angeles.

"To the Editor—In regard to the 'discussions' which follow each published article, allow me to express a few thoughts.

I find that these discussions are an excellent innovation and an instructive measure to learn the opinions of different men in the field of medicine or surgery to which they devote most of their time. I therefore never miss reading the entire 'discussion.' But unfortunately, and to my disappointment, I so often find that the discussant repeats either most or much of what he thinks he has to say from the article which has been submitted to him for discussion. Much time is therefore wasted in reading the entire 'discussion' and much valuable information is lost, since the discussant does not attempt to give of his own knowledge and experience sufficiently.

These remarks, dear doctor, are not expressed as a criticism; on the contrary, I utter them only in a constructive sense and hope that you may be able to encourage the discussants to be a bit more original and offer more of their personal experience."—A. Gottlieb, Los Angeles.

COMMENT

The suggestion made by Doctor Gottlieb is a good one, and we have added a paragraph to our usual letter to discussants, asking them to include in their discussion not only the author's contribution, but the *subject* he intended to cover, and to disagree with him where they think disagreement is indicated and to add anything that has not been previously brought out by the author or by a previous discussant. Repetitions and quotations in such direct discussion are uncalled for. We feel certain that our discussants will bear this in mind and co-operate with us to the constant betterment of CALIFORNIA AND WESTERN MEDICINE.

AN IMPORTANT COMMUNICATION FROM THE BOARD OF MEDICAL EXAMINERS

To the Editor—There has been considerable agitation in certain sections of California in regard to licensed physicians and surgeons who have been charged with violation of either the Harrison Act or the State Pharmacy Act, as a result of their indiscriminate and quite lavish use of narcotics in their practice. We are wondering whether you should see fit to write an editorial for CALIFORNIA AND WESTERN MEDICINE, which might bring to the attention of the medical profession of California the indiscretions of certain individuals, sadly reflecting on the entire medical fraternity.

The records show in some instances that narcotics are purchased in wholesale quantities by certain licensed physicians, and in other instances that prescriptions are written indiscriminately. When these individuals are charged with violation of the law, there seems to be a number of reputable licentiates, undoubtedly unfamiliar with the facts, rallying to the support of the accused, with the result that considerable ill-will is engendered.

There is no doubt but that the medical profession is always active in discouraging irregularities within its ranks. We feel that this situation is one which demands careful elucidation, so far as the rank and file of the medical profession is concerned, it being conceded that the physician and surgeon violators constitute but a very small portion of those engaged in illegal narcotic transactions. The lay violator, of which there is a large number, as a rule has no standing in a community, and hence is given no newspaper notoriety, which places the preponderance of publicity on the shoulders of the very small minority of physicians who transgress the law.

It might also be well in such an editorial to comment on the frequent statements made by licentiates called before the Board of Medical Examiners to show cause why their license should not be revoked, based upon charges of violation of the narcotic laws, that such licentiates have been urged to plead guilty and thus avoid notoriety. The majority state they have been further advised that, if a plea of guilty to the narcotic charge is entered, the case will go no further, they not being advised, however, that such a plea of guilty *automatically* places them (under Section 14 of the Medical Act) before the Board of Medical Examiners for a hearing to show cause why their license should not be revoked.

Very truly yours,

CHARLES B. PINKHAM, M. D.,
Secretary-Treasurer California Board of Medical Examiners.

MEDICAL GOLFERS, ATTENTION!

At a meeting of the San Francisco County Medical Golfing Association recently, following a tournament at the California Golf Club, the Northern California Medical Golfing Association was formed. Its purpose is to hold tournaments in various parts of Northern California at frequent intervals and also to play against other organizations (the dentists and the lawyers both have active golf associations). Eventually it is hoped to have contests with the Southern California Medical Golfers. Under the leadership of James Eaves the local organization (which was absorbed recently by the new association) meetings the past two years have been very successful. Besides affording opportunities to play on various courses, the tournaments and dinners have brought the men together in a spirit of good fellowship. The success of these meetings naturally led to the program of expansion and increased activities just adopted. Members of the California Medical Association residing north of the Tehachapi are eligible for membership. Applications may be sent to the Secretary, Suite 320, Medico-Dental Building, 490 Post street, San Francisco. The following officers were elected: President, Phillip N. Pierson; Vice-President, Clarence A. De Puy; Secretary, Harry E. Alderson; Treasurer, James Eaves; Handicapper, Wilhelm Waldeyer; Tournament Committee—Elbridge Best, Harold K. Faher, LeRoy Brooks.

The cynic is the one who never sees a good quality in a man and never fails to see a bad one. He is the human owl, vigilant in darkness and blind to light, mousing for vermin, and never seeking noble game.—Henry Ward Beecher.

What we need is not unethical individual advertising, but collective publicity, issued by medical societies.—Lucius F. Donohoe, Journal Medical Society, New Jersey.